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Perceptions of Online Distance Education within the North Carolina Community College System by Chief Academic Officers and Chief Distance Education Officers.

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Perceptions of online distance education within the North Carolina Community College System by Chief Academic Officers and Chief Distance Education Officers

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by

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ABSTRACT

Perceptions of Online Distance Education Within the North Carolina Community College System by Chief Academic Officers and Chief Distance Education Officers

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The purpose of this study was to determine the perceptions of chief academic officers (CAOs) and chief distance education officers (CDOs) regarding faculty satisfaction in areas of released time for training and course development, workload, overall support of distance education, and extra compensation.

One-hundred-sixteen surveys were sent out by e-mail to all 58 community colleges in North Carolina. The data for this study came from the returned surveys. The combined return rate of surveys was 78%. The SAS Institute program procedures were used for the analysis of the data. An alpha level of .05 was used for all statistical analyses.

Results of this study showed differences between the CAOs and CDOs regarding faculty satisfaction on key issues. One reason for this could be more frequent contact of faculty with CDOs than with the CAOs.

Recommendations for further research include:

1. This study should be replicated in 2 to 3 years to ascertain what changes have occurred in North Carolina community colleges;
2. Similar comparative studies should be made regarding community colleges in other states;
3. Additional studies should be conducted in North Carolina to gather comments and concerns directly from faculty members;

The following recommendations are made to improve distance education in North Carolina:

1. Adequate technology funding for distance education programs in North Carolina community colleges needs to be acquired;
2. A state formula should be developed to enable the sharing of FTE for community colleges in North Carolina that provide joint distance education programs;
3. Long-range plans for supporting and training faculty members and funding distance education programs should be developed in North Carolina community colleges;
4. Community colleges without written distance education policies should develop them;
5. Community college administrators should become better informed about the needs of distance education faculty members and programs; and
6. A state wide task-force needs to be developed to study the needs of distance education faculty members and programs in North Carolina.

DEDICATION

I dedicate this dissertation to my loving wife, Susan and son, Christopher. For all of the long hours that I spent working on this document while my family was patiently waiting and supporting this endeavor, I truly appreciate your patience. Words truly cannot describe my love and devotion I have for my family. Without their love and support, I would not have had the desire and strength to complete this endeavor.

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CHAPTER 1

INTRODUCTION

Distance education takes place when a teacher and student(s) are physically separated and technology (e.g., audio, video, computers, print) is used to bridge the instructional gap (Willis, 1994). Distance education has been a part of American education for over a century. Probably the earliest version of distance education was the correspondence course. In 1840, Sir Isaac Pitman, the English inventor of shorthand, developed the correspondence course by mail (Matthews, 1999). Using the correspondence method for self-improvement, people from every walk of life could enroll in distance education classes to increase their job skills. It was over a half-century later before correspondence courses were offered in America. The first department of correspondence teaching in America was at the University of Chicago in 1900, thereby ushering in a new form of delivering education (Charp, 1999). There are many definitions of distance education. In this study, distance education is defined as the organizational framework and process of providing instruction at a distance (Willis).

The delivery system of distance education can be made more effective by appropriately planning and organizing instructional materials (Omoregie & Jackson, 1996). Instructors on average have been found to spend about a semester preparing instructional materials for each of their distance education courses (Omoregie & Jackson). Like their regular classroom colleagues, distance education instructors sometimes employ graphics, videotapes, and printed material during their lectures to illustrate the content. Distance learning can also use face-to-face instruction with the

help of such technological tools as compressed video and computer desktop video conferencing (Omoregie, 1997).

Delivering distance education courses requires an educational telecommunication system that may include hardware, software, transporting of information, instructors and learners, and a professional staff (Duning , Vankekerix, & Zaborowski , 1993). An educational telecommunication system could also include a satellite or microwave link. These complex systems can integrate satellite and microwave technologies, audio and video, computers, facsimile, telephone and other electronic tools (Duning et al., 1993). This type of complex system can provide a seamless learning network, with both synchronous (occurring at the current time) and asynchronous (occurring on a delayed time frame) instruction, which can create a very useful learning network for both the learner and the provider (Chute, Sayers, & Gardner, 1997, p.75-76). When comparing the delivery methods of synchronous and asynchronous telecommunication systems, the Web has the greatest potential for promoting the engagement and interaction of the learner (Shotsberger, 1996).

Even though the World Wide Web has only existed since 1991, it has experienced extraordinary growth. This growth has included the ability to handle graphics, full-motion video, and high quality audio, all of which are accessible through the use of proper hardware and software (Crossman, 1997). The use of the Internet has increased very rapidly, partly because of the World Wide Web (Crossman). The World Wide Web contains electronic files that can be accessed through the Internet (Franklin et al.,1995). Students who are not familiar with the Internet or World Wide Web often use e-mail to gain confidence in their Internet skills. By using e-mail, students

and instructors can continue their conversation about class topics outside the classroom (Kirkley, Savery, & Grabner-Hagen, 1998). Teachers and students need to understand that using e-mail instead of face-to-face conversation may decrease the effectiveness of communication because of the absence of body language. Using on-line technology requires training, not only for staff personnel and students, but also for faculty members.

Just as the needs of the learner are considered in planning and organizing for distance education, faculty needs also should be considered. Faculty training in the development of distance learning courses remains a critical problem for educators to resolve. Willis (1994) suggested that to ensure the success of distance education, "Teachers and administrators must work together on identifying and resolving the issues, policies, and biases that inhibit systematic use of distance education in meeting academic goals" (p. 288). Other faculty needs, such as reduced workload, increased compensation, released time, or other types of rewards need to be recognized as an integral part of distance education to sustain faculty members' interest and enthusiasm (Willis).

Definitions of Terms

The following terms and definitions were established for use throughout this research document.

Asynchronous Communication– "communication between a sender and a receiver that does not happen in real time" (Franklin et al., 1995, p. Glossary-1).

Bulletin Board System – "a network-based capability that allows computer users to post messages to, and read messages from, other network users" (Franklin et al., 1995, p. Glossary-1).

Chat Mode – "the ability of computer users to send and receive messages to and from each other in real time, as in face-to-face or telephone conversation" (Franklin et al., 1995, p. Glossary-2).

Compact Disc-Read Only Memory (CD/ROM) – "digitized information stored on a high-capacity optically readable compact disc in Read-Only-Memory format (i.e., users cannot alter the information" (Franklin et al., 1995, p. Glossary-2).

Computer-Mediated Communication (CMC) – "in distance education, an instructional strategy whereby students and their instructor use computers to communicate about topics associated with a course" (Franklin et al, 1995, p. Glossary-2).

Distance Education – "The organizational framework and process of providing instruction at a distance. Distance education takes place when a teacher and student(s) are physically separated and technology (i.e., audio, video, computers, print) is used to bridge the instructional gap" (Willis, 1994, p. 295).

Electronic Blackboard - "A pressure-sensitive blackboard-like device through which writing is transmitted by telephone lines to distant sites and which can be annotated by participants at those sites" (Willis).

Electronic Mail – "A general term referring to the electronic transmission, distribution, and delivery of messages. E-mail is characterized by storage of a message at an "electronic address" that can be received by the recipient via a telecommunication-equipped personal computer" (Willis, 1994, p. 295).

Faculty Development – "The process of improving the instructional effectiveness of faculty through training and an enhanced institutional support structure" (Willis, 1994, p. 296).

Hybrid Course – a traditional course that uses technology tools, such as a whiteboard or a microphone, for a broadcast presentation. It also is sometimes referred to as a Web-enhanced course (R. F.Hodson, personal communication, December 5, 2000).

Hypertext – an electronic pathway, such as a highlighted word used to connect to multiple electronic files (Franklin et al., 1995).

Interactive Video – "the transmission of video and audio signals between two or more sites so that students at remote locations can interact orally and visually with their instructor" (Franklin et al., p. Glossary-4).

Internet – "The name for the network connecting education and research networks throughout the world" (Willis, 1994, p. 297).

Real Time – Communication that is live and not pre-recorded. (Willis).

Synchronous Communication – "communication between a sender and a receiver that occurs in real time" (Franklin et al., p. Glossary-7).

World Wide Web (WWW) – "a part of the Internet that links via a hyper-text mechanism electronic files containing text, still images, graphics, and video" (Franklin et al., p. Glossary-8).

Statement of the Problem

The problem to be considered in this study is three-fold:

1. To determine the extent to which Web-based and Web-enhanced ("hybrid") courses are offered by North Carolina community colleges;
2. To ascertain the differences and similarities between the perceptions of chief academic officers (CAOs) and chief distance education officers (CDOs) at North

Carolina community colleges regarding the satisfaction of distance education instructors with institutional policies and practices concerning distance education.

3. To elicit suggestions to revise policies and procedures to enable improvements of distance education within the North Carolina community college system.

Significance of the Study

More and more students and workers across America will be depending on distance education in the foreseeable future. Whether the form of distance education is synchronous or asynchronous, there has been an increase in the use of Web-based classes (Charp, 1999). A synchronous class takes place at the same time as the broadcast, whereas an asynchronous class takes place whenever the student wants to access and respond to the information from that instruction (Charp).

The perceptions of chief academic officers and chief distance education officers pertaining to faculty satisfaction with policies and practices at their respective institutions are measured during this study. Officials in those categories from each community college in North Carolina were sent copies of a survey. Suggestions or copies of current policies are reviewed during this study. Policies and practices involving faculty workload, training, released time, course design, and compensation also are reviewed during this study.

According to Willis (1994), when a class of 25 students is located off-campus in multiple sites, this creates an extra workload on the instructor. Institutions need to consider that the lack of sufficient time is one of the biggest problems for distance

education instructors (Hecht & Klass, 1999). This is true for both Internet and Web-based instruction. Time required for planning, delivering, maintaining updates, and interacting with students continues to be a problem, especially for first-time instructors (Kroder, Suess, & Sachs, 1998).

Assumptions

Basic to the investigation of these problems, the following assumptions are made:

1. The chief academic officers and chief distance education officers are the most knowledgeable individuals about distance education courses in their respective institutions.
2. The survey respondents responded candidly to their survey instruments.

Limitations of the Study

1. Research in this study is limited to community colleges located in North Carolina and may not be generalized to other institutions.
2. The number of respondents who did not complete the survey may have reduced the validity and reliability of this research.

Research Questions

1. To what extent are Internet/Web-based courses offered at each institution?

2. To what extent are hybrid courses offered at each institution?
3. To what extent is course development training offered at each institution for distance education instructors?
4. To what extent is released time granted at each institution for distance education instructors' training?
5. To what extent are workload policies at each institution modified to accommodate distance education instructors?
6. What extent is released time granted at each institution for distance education course development?
7. To what extent is extra compensation given at each institution to distance education instructors?
8. To what extent is technology training provided at each institution for distance education instructors?
9. To what extent are distance education faculty members perceived by chief academic officers and chief distance education officers to be satisfied with institutional policies regarding faculty training and course development, released time, workloads, and extra compensation?

Organization of the Study

Chapter 1 provides an introduction to the study and includes the following: definitions of terms, a statement of the problem, a description of the significance of the study, research assumptions, research limitations, research questions, and an overview of the organization of the study.

A review of related literature and research is presented in Chapter 2. The following topics are included: Web-based synchronous internet courses, Web-based asynchronous internet courses, Web-enhanced synchronous internet courses, Web-enhanced asynchronous internet courses, World Wide Web courses, faculty training, workload, compensation, and summary.

Chapter 3 provides descriptions of the research design, population, instrumentation, data analysis, and research hypotheses.

Analysis of the data and findings are presented in Chapter 4.

A summary of findings, conclusions, and recommendations to improve practice and recommendations for further research are presented in Chapter 5.

CHAPTER 2

REVIEW OF LITERATURE

This chapter reviews relevant literature pertaining to distance education within higher education institutions. The literature review is presented as follows: historical overview, underlying research, synchronous Internet classes, asynchronous Internet classes, World Wide Web-based classes, faculty training, faculty workloads, faculty compensation, and course design issues.

Historical Overview

Distance education has existed since the middle of the 1800s in the form of correspondence courses (Matthews, 1999). These types of courses represented the beginning of distance education before technologies were integrated into instructional delivery systems. During the mid-20th century, the introduction of the radio and television were used to support distance education courses. They were known as "first generation technologies" (National Center for Education Statistics, 1999, p. 3).

During the early 1960s, technology had expanded to include the Video Cassette Recorder (VCR), cable television, and the beginning of the Internet (National Center for Education Statistics, 1999). No single person or organization can claim accurately to have been responsible for creating the Internet (C/NET, 2001). According to C/NET (2001), the Internet was initiated by a group of memoranda written in 1962 by J.C.R.

Licklider of the Massachusetts Institute of Technology. He named his creation the "Galactic Network" concept. He envisioned a global network that could support sharing information and programs for anyone in any place. Licklider later became the head of the computer research program for the U.S. Department of Defense's Advanced Research Project Agency. Through this agency, funding was secured to support the development of the Internet. It was not until 1972 that the Internet and e-mail made their first public appearance at the Internet Computer Communication Conference. The World Wide Web began in 1989 (C/NET, 2001).

The Internet and World Wide Web, with accompanying bulletin boards, e-mail services, and ubiquitous databases of text, images and sound, were reported as continually growing in number (Barker & Baker, 1995). Associated with the Internet/Web-based and Web-enhanced courses are network concerns. The network requirements used for today's Internet and Web-based courses will require institutions to re-think future technology needs and how those needs will be met. According to Nichols (1998), most campus networks could not accommodate the multimedia, audio and video, high-resolution graphics and Internet access needs without being upgraded. Nichols found that Web-enhanced (hybrid) courses required the use of such tools as multimedia, audio, and video. Such requirements reportedly cost an enormous amount of money and careful planning. Without good plans for staffing, faculty training, and satisfying hardware needs, an institution could waste a great deal of money and have poor classroom performance and possibly a complete disaster (Nichols). In addition to problems involved with network upgrades, there would be course design problems to resolve. Faculty members who planned and designed distance education courses would

need technology training for the classroom. Technology in the classroom is only a tool to support the learning process. However, the interaction between the teacher and student, not the technology, constitutes the learning experience (Conway, 1998).

Underlying Research and Theory

Many educational leaders are studying today's distance education programs. Questions have been asked about distance education regarding whether it is as good as traditional classroom instruction (Threlkeld & Brzoska, 1994). There have been different answers to these questions. However, according to a report on hundreds of media comparison studies, there is "no significance difference" between mediated and face-to-face instruction (Threlkeld & Brzoska). This is not true for distance education courses that have used a form of visually based instruction, such as television, audiographics or computer graphics. According to the mega-analysis studies conducted by Cohen, Ebeling, and Kulik (1981), students learned slightly more by using visually based instruction than from traditional classroom courses. Since that time, however, many other different types of research have been conducted with differing results. Those other researchers found that there was "no significance difference" between learning through a traditional classroom or through a distance education medium (Threlkeld & Brzoska). These studies collectively have been found to show that the media were less important than were learner demographics characteristics, motivation, and instructional alternatives (Therlkeld & Brzoska).

Researchers Harmon and Jones (2000) conducted a project on Web-based instruction. According to those researchers, Web-based research has been limited because it is relatively new. Their recent research was based on a multi-site distance education class. One-half of the class was offered in one location and the other half was offered at another site. This type of research study in which the researchers use the same delivery method that they are studying is known as a "situated cognition". Students used synchronous and asynchronous interaction over the web. The chatrooms provided synchronous interaction, whereas the classes were delivered by asynchronous methods. According to Harmon and Jones, their research discovered a learning community. They defined a learning community as one in which students shared a common purpose and had a set of shared ideas and ideals. This learning community concept was expanded by the use of chat rooms that were used for discussing topics related to the course.

Harmon and Jones, concluded that technology was great and its use within a university setting was intoxicating. They suggested that Web-based training should not replace traditional classroom instruction, but that it should create environments that could not be created in traditional classroom settings.

Within a distance education community, there are two functions, social reinforcement and information sharing, both of which responded to were necessary to support distance learning environments (Moller, 1998). According to Moller, a learner who enrolls in an Asynchronous courses needs three different types of support communities; academic, intellectual, and interpersonal. An academic community provides connections of prior knowledge to existing knowledge and is supported by a facilitator. According to McIsaac and Gunawardena (1996), a large proportion of

distance learners consisted of adult nontraditional learners who were highly motivated and had relevant goals associated with prior knowledge. The intellectual communities consisted of providing learner-centered communication to increase peer interaction. This could occur in many ways, such as raising the learning expectations through instructional design, promoting thinking and reflecting, and increasing cognitive development by sharing and analyzing new ideas (Moller, 1998). Within interpersonal communities, learners shared their anxieties and frustrations over difficult problems or assignments, thereby helping each other become successful (Moller).

Even though Moller identified the importance of the different communities within distance education, Mottet (2000) found that the type of delivery used for distance education was equally important. According to Mottet, perceptions of instructors using interactive television showed a positive relationship between the way instructors perceived students and their nonverbal responsiveness.

Another use of a distance education tool is computer-mediated communication (CMC). Sutton (2000) examined the use of this type tool because little research had been conducted to study the effects of interaction by using this tool. Sutton found that the primary difference between a traditional classroom and a distance education classroom was the physical and social separation of participants. Educators must be prepared to address the interactive needs of separated students (Sutton).

During the past decade, distance education has moved quickly toward an interconnected and interactive social environment. The role of the teacher has changed form being an information transmitter to becoming a facilitator to connect learners together from different places. Sutton cited other studies of CMC that had been

conducted by Irani in 1998. This study showed that increased communication by using CMC could help students improve their attitudes and achieve higher levels of satisfaction with a course.

During this research project, Sutton (2000) explored a vicarious interactive setting as a different type of interaction. According to this study, a vicarious interactive setting is one where students are passive and are less likely to participate. However, these types of students observe, absorb and process information when exposed to the CMC environment. Students in such CMC environments initiated discussions when they were comfortable with the topic.

The use of information technology has the potential of changing the way commuter students experience relationships with faculty and other students. Information technology offers students more options regarding the ways they receive education (Kruger, 2000).

There are many unanswered questions about the value of technology in enhancing the learning process. Currently there are groups that have developed plans to conduct studies with institutions and faculty to answer questions about the best ways to incorporate new technologies into classroom instruction. Two of these groups are Teaching, Learning & Technology, affiliated with the American Association of Higher Education, and the Center for Academic Transformation at Renesselaer Polytechnic Institute, located in Troy, New York. Even though the debate continues about the value of technology and the learning process, few would debate the issues that distance education and technology in the classroom are here to stay (Kruger, 2000).

Synchronous Courses

In its earliest form, distance education required study by correspondence (Kerka, 1996). With new technologies came the development of videotape, audiotape, television broadcast, the Internet, and World Wide Web. Audiences enrolling in earlier types of distance education courses usually were working adults who needed to update their skills. With the development of newer technologies, anyone is a potential distance learner (Kerka). Today synchronous Internet classes are being held on college campuses across America.

According to Edelson (1998), most universities in the U.S. offered some type of Internet-based courses. In 1996, participation was estimated at one million students in North America who were using the World Wide Web for electronic courses. That number was projected to triple by the year 2000, while traditional college enrollment was expected to level off during the same period (Edelson).

Synchronous Internet-based instruction is being used more and more throughout America. A good example of synchronous Internet-based instruction was cited by McCallie and McKinzie (1999) on the campus of West Texas A&M University. At West Texas A&M the faculty members are the content experts, instructional designers and in some cases Hyper Text Markup Language (HTML) authors (McCallie, & McKinzie). At the university, their on-line courses are "user friendly" in providing hardware and software to the Web server, mail server, and chat server. The navigational process is easy for students to use, providing them with weekly units of study, and it also provide them with an interactive "help-request" button. A dedicated telecommunication network is needed to support synchronous Internet classes.

Synchronous telecommunications networks used for distance education are typically divided into three components: audio, audiographic, and video. Audio networks consist of speakerphones or telephone handsets. The audiographic component combines an audio network with a shared graphic package. Video networks are generally divided into narrow and broad band systems (Chute, Sayers, & Gardner, 1999). Broad-band networks are needed to provide quick access for students who are enrolled in synchronous Internet classes. Without the use of broad-band, students could not quickly access course information, which could lead to a high dropout rate.

Developers of Web-based synchronous Internet courses have experienced bandwidth problems. Image distortions have occurred because of the volume of users using the same system at the same time. Too many users accessing materials from the same server simultaneously creates a tremendous strain on related networks. The addition of images to synchronous Web-based classes places an even greater demand on bandwidth, depending on the size of the image file (Lockee, Moore, & Moore, 1999). According to Willis (1994), bandwidth is an electronic path for distributing information and the more information that must be transmitted the greater bandwidth required. Insufficient bandwidth can cause a server to "crash" when receiving too many hits at one time. When this happens, all communication comes to an abrupt halt (Lockee et al.).

According to a report published by the National Center for Education Statistics (1999), we are experiencing the fourth generation of distance education technologies; Internet/Web-based courses using synchronous and asynchronous computer-based instruction and compact disc read only memory (CD-ROM). The different technologies used in distance education meet different instructional and learner needs, and costs of

these technologies vary widely from institution to institution. According to Hecht and Schoon (1999 in press b), most Internet/Web-based courses have been asynchronous in nature, but synchronous courses are required when intensive student and faculty interaction is desired.

Software becomes a problem when considering synchronous courses. But software manufacturers have begun to address these problems with software such as the Cu-See-Me package (Todd, 1996). Educators have begun to experiment with Cu-See-Me software for course delivery with positive results (Todd).

Community colleges also have been involved with synchronous Internet/Web-based instruction. According to an article published by Acebo, Burruss, and Kanter (1998), courses that are offered through the Internet and World Wide Web have experienced tremendous growth during the last decade. According to the U.S. Department of Education's National Center for Education Statistics, as of 1995, more than 25,000 courses were offered through distance learning in community colleges and universities nationally, and it was estimated that 10,000 courses were then available on the Web (Acebo et al.).

DeAnza College, a public community college in Cupertino, California, was enrolling approximately 22,000 students each quarter by the end of the 1980s. In 1990, the college started its Internet classes through a National Science Foundation grant. At this institution, there were many computer labs available to students with Internet access. The institution was faced with a financial burden in trying to offer distance education courses. Because there was not enough money to fund the distance education programs properly, DeAnza formed partnerships with such local industries as Cisco Systems to

provide technical and financial support for the networks. Within those networks, faculty and students had access to e-mail. Students who enrolled in those distance education courses could stay in touch with faculty members by using e-mail. Approximately one-third of DeAnza's students now registers for on-line classes and this past year, Yahoo! Internet Life an on-line magazine, identified DeAnza as the number one "Most Wired" community college in the United States (Acebo et al., 1998).

On the campus of De Anaza in the mid-1990s, faculty members who had been criticizing distance learning were beginning to change their minds and were asking if they also could teach distance education classes (Acebo et al.). Those faculty members had begun to realize that Internet/Web-based classes offered interaction, accessibility, and research opportunities. The interactive parts of distance learning included e-mail, listserves (group e-mail), bulletin boards, and chat rooms. Because some students did not have cable access, they were not able to access any courses offered through the local cable stations. This problem was corrected with the availability of on-line courses. Both students and faculty could share Web pages to do their research, instead of having to travel to remote libraries for the same information (Acebo et al.).

An instructor working in an interactive (synchronous mode) has been compared with a conductor of a symphony orchestra instructing the musicians to play different parts with different instruments. In contrast, in the classroom, the instructor needs to present opportunities for inter-site and intra-site interactions among learners approximately only once every 20 minutes. Question/answer and brainstorming sessions are two ways for a distance education instructor to provide interaction among class members (Chute et al., 1997).

Community colleges are poised to take the lead in distance education because of the Higher Education Reauthorization Act of 1998. In the Higher Education Reauthorization Act of 1998, Congress passed a "Learning Anytime, Anywhere Partnership" (LAAP) program to support 29 distance education projects with community colleges taking the lead. "We must make it possible for adults to learn at a time, pace and location that works around the constraints of their daily lives," then Vice President Al Gore said in awarding the initial funds (Dervarics, 1999, p.1). One of the 29 projects was to enable the Colorado Electronic Community College and two North Carolina community colleges to offer a chemistry program that was planned to include computer simulations, demonstrations and a home-based wet lab. This type of course was expected to provide new skills that would enhance traditional chemistry instruction.

Other ways that synchronous instruction has been used for delivering course information have included audio-only conferencing and audiographic conferencing. According to Ostendorf (1989), a decade ago the audio-only system was the simplest and most prevalent means of delivering distance education. This type of delivery system has three different components, simplex, quasi or half-duplex, and full-duplex. When using the simplex method, communication flows in only one direction at a time. When using the half-duplex system, the switching time is speeded up, thereby making it possible for parties to interrupt and change the direction of communication. The full-duplex system allows communication to flow both ways simultaneously, as in a telephone conversation.

Audiographic conferencing combines technologies for voice, data and image transmissions. Using this type of conferencing, the instructors can use fax machines,

electronic blackboards, video images, or computers. According to Wolcott, Napper, and Lindsay (1994), fax machines could be used, but the electronic blackboard offered a better method of delivering the instruction. An instructor using the electronic blackboard could send and receive information to a class at a remote site. The information was displayed on a TV monitor and if the same kind of equipment was available at the receiving site, reply information could be sent back to the instructor. Video images could produce a three-dimensional image of an instructor. For example, these images were sent over a telephone line and took about 15-30 seconds per image. Another use of the electronic board was the whiteboard. These boards share drawing space; for example, NetMeeting, Microsoft (1998), is a suite of conferencing tools supporting synchronous multimedia communication between users connected with a computer network and the Internet.

Computer-based systems were found to be convenient in sending visual images and allowing writing without transmission delays (Wolcott et al., 1994). Instructors could develop and store information that could be retrieved easily from a computer. Audiographic conferencing requires a computer, hardware, and video components. For successful audiographic conferencing, participants needed good computer skills. In Johnstone, Gilcher and Hansell's assessment of 1989, "computer-based audiographic systems constituted a major development in low-cost, fully interactive communication technologies" (p.59), whose use was increasing.

According to Wolcott et al. (1994), synchronous media could be used to link a widely dispersed group of students into a common instructional discussion. They further explained that instruction was no longer confined to voice communication but also had

come to include transmission of visual images and data. Conway (1998), however, suggested that using technology was only appropriate when it facilitated interaction between instructors and learners.

Asynchronous Courses

If institutions cannot afford Web-based synchronous Internet methods of delivering courses, they may want to consider asynchronous methods instead. Using asynchronous methods gives institutions flexibility to use computer-based learning and eliminates the need for expensive interactive video equipment. According to Franklin, Yoakam, and Warren (1995), computer-based instruction was most often provided in an asynchronous mode, with students retrieving files sent by instructors acting on them at their convenience. The use of asynchronous methods was also found to eliminate bandwidth problems.

Asynchronous methods have included broadcast television, videocassette, voice mail, fax and fax-back, and audio-text. Broadcast television offered privacy and convenience for the students because they could watch pre-recorded television segments when they desired. This method also was considered particularly attractive to handicapped or institutionalized individuals, to parents with small children, retirees, and those intimidated by the thought of attending a traditional class (Franklin et al.).

The videocassette method has been used to provide a customized video-enhanced independent study course. As Brown (1984) noted, the use of videocassettes offered flexibility and control by permitting use at times convenient to the learners and by

permitting the learners to adjust the pace of the instruction through their manipulation of the Video Cassette Recorder (VCR) different features. Learner interaction and participation with the materials and subject matter increased with the addition of "participative exercises," a strategy that countered passive viewing (Gunawardena, 1990). Other suggestions for learners to view customized video-based courses have included periodically stopping the tape to respond to questions, summarizing conclusions, completing checklists or engaging in other activities suggested by instructors.

Asynchronous applications using voice mail have been found to be helpful in supplementing distance education courses. This method permits students and instructor to communicate with one another when it is convenient for all parties. According to Franklin et al. (1995), it provided instructors with a simple tool to communicate information to individual class members or to the class a whole.

Fax and fax-back tools have been used successfully to enhance asynchronous applications. Facsimile machines use ordinary public telephone lines to network with one another by sending and receiving hard copies. This provides quick information to and from both student and instructor. Students who used fax-back options received class materials via a fax machine. Students received a telephone number to call then entered their own fax machine numbers to receive the requested documents (Franklin et al.).

Audio-text technology allows instructors to digitize audio messages and store them on a computer. The messages can be retrieved via a telephone keypad. Instructors who want to communicate with distance learners and do not need or want more elaborate technologies for sending or receiving visual information tend to favor the audio technology (Franklin et al.).

The University of Wisconsin's administrative medicine program is a good example of how audio technology is used in distance learning. The administrative medicine program leads to a master's degree that allows physicians from all across the country to participate while they maintain their clinical and/or managerial practices. At the beginning of each semester, class members and instructors get to know one another. Throughout the semester, the class members participate in weekly audioconferences. The use of telephone technology allows each healthcare provider to call into a "conference bridge," to share ideas, and electronic mail is also used to exchange ideas. Students frequently use the fax machine to send and receive class assignments.

Other asynchronous applications have included the program at Drexel University. This university uses Lotus Notes to support communication and problem-solving needs. Authors, Oblinger and Maruyama, 1995 explained:

> Lotus Notes is a GroupWare tool that permits students to interact asynchronously – that is, any time, any place – via a technique known as replication which allows Lotus Notes users to get on a network, send comments and messages that were sent since the last time they logged onto the network (p. 7).

Preliminary results of using this software have been promising. There were 800 interactions in eight weeks in one course with only ten students enrolled in that course. In 1998, Drexel University provided a total of five courses using Lotus Notes, and more were being planned.

Throughout the United States, there are many colleges and universities that have offered asynchronous distance education courses. According to findings at a conference held on "Higher Education and the NIT: From Vision to Reality" (Oblinger & Maruyama), several universities including Duke, Wisconsin, and Maryland were offering distance education classes using Lotus Notes and other types of asynchronous formats.

At Duke University, the distance education program began by offering an MBA degree. This program also included residential modules in Europe, Asia, and South America. The program consisted of 11 weeks of residential education and included 300 hours of instruction and 200 hours of self-directed study. The Duke program used several different types of hardware and software packages. However, the core of instruction consisted of e-mail, bulletin boards, Screen Cam movies, ProShare, Real Audio, and Netscape. The course delivery system consisted of a room metaphor and used the World Wide Web as the means of contact. Within each room there was a library, conference table, agenda. participant/team list and surveys/student feedback.

At the University of Wisconsin, distance educators wanted to deliver courses and training to their citizens by using technology (Oblinger & Maruyama). The university used the Internet in a fashion known as computer-mediated communication (CMC) to provide new avenues to offer their distance education programs. Using the CMC method reportedly helped break down barriers and enable students to access information in a self-paced fashion and enhanced self-directed learning. Within the CMC format the use of e-mail, electronic discussion lists, computer conferencing, databases, collaborative projects and real-time chats could take place. Their results from computer-mediated conferencing (CMC) have shown several improvements over the traditional classroom:

> On-line courses are distinguished by active peer-to-peer discussion and exchange; messaging is fairly evenly distributed among students; there are increased opportunities for access offered by the asynchronous, place independent environment; Asynchronicity provides learners with time to formulate ideas and contribute responses; group interaction motivates students and exposes them to a diverse range of perspectives; students report that they work harder and produce a higher quality of work on-line (Oblinger and Maruyama, 1995, p. 10).

According to Oblinger and Maruyama (1995), the relationship between the instructors and students at the University of Wisconsin, was altered by the use of CMC.

The University of Maryland's distance educators also have used the Lotus Notes as the primary learning support tools, including the one-minute paper, discussion database for in-class collaborative learning exercises, class notes, and a repository for students to post assignments. One-minute papers were collected at the end of each class, and the instructor reviewed the comments and posted the responses so that all students could review them. The use of the one-minute paper was said to have improved the communication between the students and the faculty member. Discussion databases included discussions that have held between two students, with each student reviewing the other's work. This method allowed additional time that was convenient for the students, thus creating more interaction between the students than the traditional classroom method would have provided. Class notes were used to provide more time for students involved in a class. This method was found to be very helpful for students who missed class or wanted to review class notes again. Those notes could be accessed through the World Wide Web and Lotus inter-notes. The assignments were used to post an article from Current Issues in Technology. Included with this article was an executive summary with an analysis of how it relates to the class. Students also used this repository method to review research news to write papers (Oblinger & Maruyama).

Other asynchronous systems that support distance education include asynchronous learning networks (ALN). An ALN is characterized by interactions that follow a many-to-many pattern; teacher and students "talking" to the entire class, and to individual students at the same time (Winiecki & Chyung, 1998).

> Asynchronous Learning Networks have been associated with constructivist learning methods in which the teacher acts as a more capable peer because of the interactive pattern helps assists learners as they explore the curricular content. This instructional method has also been described as "discursive" (Laurillard, 1993, p. 165).

Discursive interaction requires teacher and students to search for ways to communicate and understand embedded concepts, knowledge and skills. When there are many messages about many topics being received and read, it is up to the participants to piece together the different topics. Teachers and students agree that this is one of the most difficult components in using asynchronous instruction (Winiecki & Chyung,1998).

In face-to-face communication, there are shared understandings of many interactions. Asynchronous interactions, however, tends to lose some of that shared understanding. Because of the time lag between messages and the discussion, the communication thread is somewhat distorted. To counter this problem, there are three simple techniques that can be implemented. They are: 1) turn-taking to prevent overlaps; 2) turn-taking during required repairs to the system; 3) turn-taking during updating or re-programming the system (Winiecki & Chyung). Even teachers using those different techniques could lose the discussion threads with students if they failed to use these technologies properly.

With the growth of the Information Highway, distance education classes can expect teleconferencing to increase. Teleconferencing can use audio, computer, and video to deliver distance education classes. The process of teleconferencing communication could be conceived as employing interactive cycles, in which information is exchanged synchronously (immediate feedback) and asynchronously (delayed feedback) among individuals or groups via teleconferencing media (Noor Al-Deen,

1994). This communication medium was predicted to provide receivers more control than senders regarding how and when messages were sent. Other types of mass media were reported to lack that control (Noor Al-Deen).

During the summer of 1994, several state universities in North Carolina took a bold step in beginning the construction of a $160-million statewide asynchronous transfer mode (ATM) network that would link state agencies, schools and universities, courts, doctors and hospitals, local governments, and private companies (Wallace, 1994). In July of 1994, the state established a statewide fiber-optic network called the North Carolina Information Highway (NCIH). By August of the same year, 115 sites were linked to the network, even though the network's features were still in the planning stages (Rogers, 1994). The initial 115 sites did not include libraries, but they were scheduled for inclusion in the years 1995 and 1996. (Rogers). Most of the 115 initial sites had accomplished their goal of including useful libraries by the end of 1996 (W. Lear, personal communication, February 7, 2001).

Fujitsu, Incorporated, supplied the ATM switches needed for this network. The switches were being located in Asheville, Charlotte, Durham, Fayetteville, Greensboro, Greenville, Raleigh, Research Triangle Park, and Wilmington. AT&T agreed to supply one side of the switches with a high-speed wide-area truck line called Synchronous Optical Network (SONET). The three in-state telephone companies (Carolina Telephone, GTE and Southern Bell) agreed to connect users to the other side of the switches (Wallace, 1994). Wallace projected that more of the North Carolina community colleges would be coming on-line with this technology by the year 2000. When the North Carolina Information Highway came into full swing, it originally was expected to have

3,400 sites (Rogers, 1994). Because of unforeseen financial problems, however the North Carolina Information Highway was able to activate approximately only 3,000 of the 3,400 planned sites by the end of the year 2000 (W. Lear, personal communication, February 7, 2001).

According to the report of the National Center for Education Statistics (1999), in 1997-98, 58% of American institutions of postsecondary education used asynchronous Internet instruction, whereas 54% used two-way interactive video. One-way pre-recorded video was used by 47% of the institutions as a primary mode of instructional delivery for distance education courses (National Center for Education Statistics). This report also revealed that more institutions used several types of video technologies and Internet-based technologies than they did other modes of delivery.

Most community colleges in America have been found to use broadcast television, narrowcast television, computers and modems, and nonbroadcast videocassette distribution (Johnston, 1994). Each type of broadcast has a different purpose. Broadcast television provides non-formal programming such as documentaries. Narrowcast television uses satellite transmission and cable television for delivering one-way educational programs via an educational channel. Computers are used for interactive computer conferencing between the instructors and students using computer-mediated systems. Courses that are provided in the "virtual-classroom" style offer interactive computer conferencing programs. The "virtual classroom" can include satellite downlinks, which enhances the use of asynchronous Internet classes (Johnston).

World Wide Web Courses

With the creation of the Internet and the World Wide Web, many people have advertised their goods and services via personal home pages (Terrell, 1996). According to a paper presented at the Intercom '96 conference in Miami Florida, instructors stored class information such as tutorials, syllabi, and class notes on their personal home pages. Because of the increased use of such technology, both instructors and students have found direct connections to other useful information. The Internet and World Wide Web have also been used to train employees of companies. Companies such as Lockheed Martin, Aetna, U.S. Healthcare, IBM, and Charles Schwab & Company were using the Internet and World Wide Web for training purposes. According to Janet Lecuyer, vice president of interactive investor education at Schwab, "As more people and investors come on-line, there's a broader range of consumers to educate, and the Web is a perfect vehicle to help consumers make investment decisions" citied in Mottl, 2000, (p.77).

Perhaps one of the best and best-known tools used in distance education is the World Wide Web (WWW) server (Harrison, 1997). This tool has capabilities that can be used to store word processing documents and spreadsheets to be downloaded by students at their leisure. According to the proceedings at the Mid-South Instructional Technology Conference, (Harrison, 1997), the WWW server excelled as a way to make graphic images such as drawings or photographs. To make full use of the WWW server, a student needs access to the Internet and a computer capable of running the newer WWW browsers, such as Netscape or Internet Explorer. A Web browser tool is an interfacing tool with capabilities to navigate through the Internet with ease (Belanger & Jordan, 2000).

For institutions interested in providing a self-paced learning environment with a variety of media, including books, videos, audiotapes, and computer-based training, the World Wide Web's "hypertext" structure would help satisfy their needs (Black, 1998). Using this hypertext structure would provide a multimedia system for on-line learning for a self-paced, "anytime-learning" environment. However, delivering the multimedia content by Web browsers, plug-in applications, and media servers provides just one snapshot of the much larger picture. Storing information or establishing paths for students to do their own exploring is helpful in situations where access to library resources is restricted. This gives students another information resource channel to use (Franklin et al.,1995).

There are different software packages that can be used on the World Wide Web through a Web browser (Box, 1999). Some of the software packages include one-way computer-mediated communication, two-way ansychronous computer-mediated communication, and two-way synchronous computer-mediated communication. Media that are used on the World Wide Web with one-way computer-mediated communication include graphics, audio, video, and discussion. Using the World Wide Web, a password system used to develop protective pages could be established if confidentially were an issue for the students or instructor. Instructors could use graphics, audio, and video to enhance a course by including photos, live class presentations with teacher demonstrations with steps outlined on a Web page (Box). Web-based courses have no geographic limits whereas Web enhanced courses do. Web enhanced courses require students to attend a traditional classroom and use components of the Web to enhance the learning process (N. Bevans, personal communication, December 4, 2000).

Two-way asynchronous computer-mediated communication involves the use of e-mail, mailing lists, message boards, and discussion for delivering a course. E-mail can be used for asking questions and for sending out notes to the class (Box, 1999). Mailing lists are also used for class discussion, because questions and comments go to everyone on the list. Message boards have similar uses as the mailing lists because many people can be reached at one time. These three variations of technologies create a means for interaction within different groups of people, particularly between student and teacher (Box).

Both two-way asynchronous and two-way synchronous instruction include the components of chat, audio conferencing and video conferencing. Using the synchronous instead of the asynchronous method allows real time class settings as though the students were in the same room at the same time.

Another Web-based cybercourse example includes components of collaborative learning, demonstrations, interactive on-line discussion, and problem solving. According to a previous literature review, collaborative learning is a type of instruction that could meet the needs of different students (Ellsworth, 1994). This type of learning could help students in different sized groups to conduct electronic research. Instructors using the demonstration model could post material for student evaluations. In addition to student evaluations, instructors could provide electronic field trips for students to view content-related educational resources (Chen, 1998).

Interactive on-line discussion could occur by e-mail, listserv, newsgroup, Web conference page, and/or synchronous discussion known as chatting. However e-mail has been found to be the most simple, direct, and effective method for discussions during a

Web-based course (Chen, 1998). E-mail is an electronic means of communicating with others outside the classroom, whereas a listserv and newsgroup involve the use of automatic mailing lists to provide information about schedules, courses, and events (Chen). A useful feature of e-mail is the ability to attach text data, graphic files, Web addresses or universal resource locators (URLs) to the messages. Instructors and students can attach different files to e-mail messages by clicking of a button on the task bar. Instructors or students could attach files easily to e-mail messages to enhance the learning process. Instructors could save time by using listservs because they could send information to entire groups instead of each individual student one at a time. To conduct private on-line discussions, students could use the "newsgroup" component more often. Using the "newsgroup" feature of a Web page could provide a bulletin board for users to attach comments for discussion purposes. Outside interaction could occur using this feature allowing different viewpoints to be shared with the class. Other features of "newsgroup", include the reading or topical discussion, interclass communication, guest expert, assignment submission, campus quadrangle, instructor broadcast, collaborative writing, and post Web pages (Madjidi, Hughes, Johnson, and Cary, 1999). Web conference pages offer students another method for on-line interactive discussion. Both synchronous and asynchronous methods could be used for classroom discussions.

Problem-solving activities could be the most beneficial educational services available to students (Ellsworth, 1994). These services could include using search tools to gather valuable information and sharing that information with others. The Usenet could also be used to gather useful information on educational Web sites. Usenet has been available since the early 1980s. It was designed to handle sorting of messages by

separate newsgroups known as a browser (Woolley, 1996). According to Woolley, the most popular Web browsers include Netscape Navigator and Microsoft's Internet Explorer.

Students and teachers could use Web-based distance education to receive degrees and in-service training. At Indiana University a collaborative teacher education program was developed to provide in-service training for teachers living in the rural communities of southern Indiana. At the beginning of this training, teachers were complaining about the lack of interaction. To address this problem, the university turned to the World Wide Web-based Alta Vista Forum conferencing system. This system is an asynchronous text based conferencing system that incorporates two discussion elements, forums and teams (Chung, Rodes, & Knapczyk, 1998). A forum is the collection and resource that allows learners to interact with one another on course-related matters. The team module is a shared environment in which class members could work together in groups to address course assignments or work on course projects. Because the Alta Vista is asynchronous and text-based, it offers ways to connect to more sophisticated Web products that could provide visual and voice communication in real time. Using a text-based product such as Alta Vista would ensure that the information was available to learners who may not have had the latest computer equipment (Chung et al.).

Educational research consistently has indicated that adult learners can generally benefit from instruction in which they were motivated, in which they exercised control over their learning experiences, and in which they were accountable for their own learning outcomes (Wagner & McCombs, 1995). Web-based conferencing offers a strong approach for promoting these variables for distance learners. By providing a range

of options for interaction outside of the class, Web-based conferencing provides encouragement for students to develop stronger degree of ownership and taking greater responsibility for the learning process (Chung et al., 1998).

Instructors who use Web-based conferencing systems need to plan for performance and user-interface problems (Woolley, 1996). These problems result from a design problem of the Web itself. According to Woolley, performance problems consisted of moving around from place to place in a short period of time. Trying to retrieve a lot of information at the same time also compounded these problems. The other problem, user interface, deals with having to navigate around many pages of information with the use of a mouse. However, Woolley warned readers that there was no single best product for every situation and that the instructor should evaluate strengths and weaknesses of each product before making decisions.

Faculty Issues: Training, Workload, Compensation and Course Design

Training.

As the use of technology, especially computers, becomes more a part of distance learning, so will the problems of faculty training, workload, and compensation for distance education instructors. Faculty training remains a key problem for institutions and for the success of distance education. Willis (1994) suggested that for the success of distance education, "Teachers and administrators must work together on identifying and

resolving the issues, policies, and biases that inhabit systematic use of distance education in meeting academic goals" (p. 288). One way to accomplish this task is to provide in-service training classes.

In-service training classes need to be developed for faculty who are teaching or will be teaching distance education classes. This training should include hands-on experience for preparing text, video, and graphics, working with all of the telecommunication equipment, and the techniques for managing the unique needs of the students (Omoregie, 1997). Along with the in-service training problems comes support staff problems that also should be addressed. A support staff should be knowledgeable about the preparation of instructional material and about how to make sure the equipment is in good working order before a class begins.

Instructors need more planning time and instructional time to modify courses for distance education formats than they are often given (Cyrs, 1997). Some institutions have created central training units for faculty to develop their skills with computers, video and multimedia equipment. An example of this type of training center was developed on the campus of Mott Community College in Flint, Michigan. According to William Angus, dean of educational technology, "We chose to put these technologies into one administrative unit so that when faculty come to use them, they don't have to make a choice as to whom to go to" (Lazarick, 1998, p.28). Other types of multimedia equipment have been used at other institutions.

Some faculty training problems regarding distance education instructors were reportedly resolved at Grand Valley State University in Michigan (Major & Levenburg, 1997). The delivery system used at Grand Valley was interactive television. Faculty

members were chosen because they wanted to teach distance education classes using interactive television methods. Training sessions for the faculty provided enough time to re-think their instructional designs, practice using the interactive television equipment and design course packs to send to students before the first class meetings. Faculty members also were allowed to videotape themselves while other colleagues observed them conducting practice sessions. According to Major and Levenburg:

> While it is difficult to make all faculty equally competent for their ITV (interactive television) assignment, it is our responsibility as system implementers to prepare a comprehensive ITV training program for those who are far-sighted enough to take advantage of it (p. 8).

Another example of a training center for distance education faculty was developed at the educational technology training center on the campus of Red Rocks Community College in Colorado. The goal of the center was to provide faculty development opportunities and education anywhere and anytime (Susman, 1997). This development was part of an effort to establish electronic educational programs for Colorado's 13 community colleges. This venture could have been like that of any big business wanting to provide training for its employees so they could excel in their own respective areas (Susman).

In 1994, Sinclair Community College in Dayton, Ohio, built its Center for Interactive Learning. The center was built to help promote interactive learning and expand technology-based courses. Faculty using new instructional technologies needed training in the use of those technologies, and professional development therefore became a major concern (Neff, 1998). For faculty training, the center used a model for instructional technology developed by Stephen Gilbert, Director of Technology Projects,

American Association of Higher Education. The Gilbert model explained the various phases that both the institution and faculty members went through to achieve a student-centered learning environment (Green & Gilbert, 1995). The Gilbert model included the following phases (1) personal productivity, (2) lecture enhancement, (3) interactivity, and (4) student-centered learning. Going through the different phases together faculty members and students learned how to become customer-driven. Using this set-up, each faculty member became the coach, counselor, facilitator and instructional designer (Neff, 1998).

The faculty development program for distance education instructors on the campus of Lakeland College in Wisconsin is somewhat different from those of the other colleges mentioned in this study. At Lakeland, a small group of instructors was recruited and enrolled in a six-week on-line training certificate course (Krueger, Porter, & Burke, 1998). After this initial training, on-line instructors participated in a four-week on-line training session, in which they learned about pedagogy, on-line education methodology, and how to use the delivery vehicle. When a faculty member submitted an approved on-line course syllabus, he or she was ready for the mentorship training. During the initial term for a new on-line instructor, a mentor would be a silent observer to help identify and resolve potential problems before they became actual problems (Krueger et al.). The last part of the faculty-training program consisted of course evaluations. The feedback reportedly helped the on-line instructors and mentors resolve any problems before they became major issues. Finally, on-line faculty members had access to an on-line faculty lounge where they could discuss problems and share ideas about on-line education.

Workloads.

Workloads for faculty members continue to be a major concern. Institutions across America are beginning to realize that these concerns should be resolved. Officials on the campus of Florida Gulf Coast University have considered at least one solution. According to Roy Boggs, an associate professor of computer information systems, "When you have 20 students e-mailing you all the time, it takes a lot of work" (McKinnon, 1998, p.30). The faculty members had a union at Gulf Coast, and their officials were planning to ask the administration to allow one large section in a distance education class to be equal to teaching two courses. The union officials said they believed that this reduction in workload would help reduce the faculty members' stress.

Another example of workload reduction related to distance education teaching occurred at Christopher Newport University in Virginia. They began offering courses on-line in 1993, and since then have experienced growth from 8 courses to 50 courses in the fall of 1997. "Faculty members are allotted a one-course reduction in their teaching load (funded by the CNU on-line budget) whenever they develop a new course for the on-line program" (Vachris, 1999, p.295). Even with the reduction in workloads, most distance education instructors reportedly spent two to three times the amount of time delivering one distance education class, as compared with the time spent in delivering the same course in the traditional way.

As distance education continues to grow and prosper, so will concerns about faculty workloads. According to a paper presented by Wolcott (1998) at the annual meeting of the American Educational Research Association, faculty members often reported that distance education courses were part of their regular workloads and not

considered to be overloads. Wolcott (1997) discovered that both faculty and administrators agreed that engaging in a distance education class would require time that otherwise could be spent in research or scholarly publication. This problem is more prevalent in a university setting than in a community college, because at community colleges very little, if any, research is required as part of instructors' teaching loads. However, planning time is needed to support an instructor who is preparing for a distance education course, whether it is at a community college or a university. Teaching a distance education class may require not only planning but advance planning such as choosing software or developing a course (Rockwell, Schauer, Fritz, & Marx, 2000).

According to Franklin et al. (1995), most instructors were projected to need additional time to plan for and develop the curriculum for distance education courses. Without ample planning time, a distance education course could result in poor outcomes for both instructors and students (Franklin et al.).

Faculty members involved in distance education at the State University of New York at Stony Brook have voiced their concerns about workloads (Edelson, 1998). According to Edelson, faculty members and campus leaders have formed a "wait- and-see" attitude about the direction of distance education and all of the issues surrounding these type of courses especially the workload issue.

Compensation.

The problem of compensating distance education faculty members is and will continue to be a complex problem (Lynch & Corry, 1998). There is no single perfect

compensation plan for persuading faculty members to take on additional teaching responsibilities. Some compensation models explained at the Society for Information Technology and Teacher Education International Conference included additional pay and sharing of the revenue generated by distance education classes. These models are much like the one found on the campus of Grand Valley State University in Michigan (Major & Levenburg, 1997).

Academic administrators on the campus of Grand Valley State University in Michigan have developed a system for instructors who taught classes using interactive television methods. The university counted students in any remote site as an "overload" for the instructor and paid him or her additional money for teaching such courses (Major & Levenburg). Interactive television was the main distance education vehicle on the campus of Grand Valley State University. At the university, there were two conditions required before compensation was paid to a distance education instructor. One condition was that an instructor had never taught a course using interactive television, and the other was that the particular course had never been taught before using that format (Major & Levenburg). Instructors who taught in classrooms to students at remote sites could receive overload pay for their efforts. At a remote site, if there were five or fewer students, the instructor would receive $500. If there were more than fifteen students in the remote class, the instructor would receive $100 per student, up to a maximum of $1,500 (Major & Levenburg).

Compensation for faculty members who teach distance education classes may include stipends, extra pay, or out-of-state trips to conferences. According to a survey conducted by Wolcott and Haderlie (1995), the Western Cooperative for Educational

Telecommunication, with members from the Western Interstate Commission for Higher Education, found that over 50% of faculty members had received stipends or extra compensation for teaching distance education classes. DeAnza College however, decided to offer incentive grants to instructors to develop Web courses. The plan was for each instructor to adapt a current course to a Web-based design. Each instructor who successfully completed the assignment received a $4,000 stipend, one year of free connection to the Internet for the instructor's home, and extra support from other areas of the college, such as graphic design assistance (Acebo et al., 1998). However, providing extra compensation for distance education classes is against policy at some institutions (Wolcott, 1998). At the University of North Texas, however, extra compensation is not against policy, but it is encouraged.

According to an article published in the The Chronicle of Higher Education (2000), the University of North Texas located in Denton, Texas, has begun paying royalties to professors who develop on-line courses. The royalties are paid from tuition collected from students who enroll in an on-line course and lives 50 miles from the university. According to the associate vice president, Phillip M. Turner, the 50-mile rule was imposed to increase the number of new students, not to take existing students from the classroom. If the university licenses an online course to another institution, the professor who developed it can receive 50% of the fee.

Teaching in a distance education mode has often been compared to teaching a continuing education class. Traditionally, continuing education classes have offered the lowest rates of compensation (Scott, 1984). The lack of perceived equitable compensation was a negative factor for faculty participation, and such inequities could

hamper recruitment and retention of distance education faculty members (Clark, 1993). According to Wolcott (1997), the most sought-after rewards for faculty members were tenure and advancement in rank.

Course Design.

Adequate course design is only one of the requirements for effective distance education classes. According to Ostendorf (1997), successfully designed courses for distance education requires them to include a learner-centered design, learner-centered delivery skills, and direct learner participation. The choice of media delivery, room set-up, and equipment operation from the perspectives of both the instructors' and students' needs should be considered. As the need for video classes grows, so do the needs of the instructors. According to Ostendorf , "Success in this medium results from understanding the medium and the instructor's environment and then mastering the equipment and acquiring facilitation skills that allow the instructor to motivate and directly involve all learners" (p. 53).

The improvements in technology have increased enrollments in distance education courses. In planning distance education courseware it is essential to know a learner's personal characteristics. By knowing the participants, institutions would enable making planning and policy decisions that could lead to increased participation and success in distance education (Galusha, 1998).

According to Dick and Carey (1990), a model for designing instructional programs for distance education courses should include analysis, design, development,

implementation, and evaluation. In the analysis phase, the kinds of delivery methods are decided upon for a particular course. However, some researchers suggest that instructional design is more important than how it is delivered (Clark, 1983). The development, implementation, and evaluation phases are also important for a successful distance education program (Clark).

Another important factor in designing distance education classes is the need for a support system for the learners. Some learners of today are still uncomfortable with computer technology. "By providing comprehensive support services to the learners, the educational providers will increase the learners' personal comfort zone with the distance learning environment and allow the learners to concentrate more on the subject and less on the technology" (Chute, Sayers, & Gardner, 1997). When distance learners have trouble accessing a network they expect a support system to be in place for them.

On the campus of Wisconsin Technical College System in Fond du Lac, Wisconsin, instructional designer software was used to help instructors design courses. There were four elements of instructional design, including definitions of who, what, when, and how (Neill, 1995). The "who" represents the learners who will participate in a class. The "what" deals with skills that should be covered. The "when" and "how" deal with student outcomes and the activities to be used in the learning process. According to Neill:

> The WIDS model requires teachers to provide learners with information about core abilities, competencies, performance standards, and learning objectives at the beginning of a learning experience.
> As result, learners set out with a clear vision of the expectations for successful completion (p. 144).

There are other software packages available for instructional designers or instructors who are designing their classes. One such package is called Web Course Builder 1.0. According to Bethoney (2000), this package can reduce development time without sacrificing design principles. He says that this software package delivers a rapid prototype course but that it provides only limited interactivity and course management tools (Bethoney). Instructors who need interactivity and tests other than multiple choice tests they may need to use Learning Space developed by Lotus.

The course design software package known as Asymetrix was used at Fort Sam Houston's medical facility in San Antonio, Texas. They were experiencing a need for medical training all over the world for their personnel (Apicella, 1998). This software package is a Web-based program that reportedly can deliver hundreds of personalized courses with little effort.

Another software package that an instructor or course designer can use to create an on-line course is ToolBook II Assistant 7.0. This software package uses templates or you can create your own without the aide of a programmer (Mitchell, 1999). According to Mitchell, the only thing missing in this software was an image library. However, a courseware package called MicroMedium Digital Trainer can be used to remedy this problem. These design software packages requires little to no training for a designer or instructor.

Summary

The foregoing literature review has discussed topics and problems pertaining to synchronous and asynchronous courses. Within these types of distance education classes, the review has covered such various methods as broadcast television, videocassette, voice mail, e-mail, and audio-text. It also has covered the various types of conferencing available for distance education classes. Teleconferencing is expected to increase because of the increased use of the Information Superhighway. World Wide Web classes were reviewed and examples were cited regarding how Web pages with the use of Web browsers have been used to deliver courses. Faculty training, workload, and compensation problems were discussed in this chapter. Providing training for distance education faculty members continues to be a problem that institutions must overcome if they want their distance education programs to be effective and to continue to grow. Workload and compensation policies are additional concerns that community college administrators must address, if Web-based and Web-enhanced courses are to achieve anything close to their potential effectiveness and use.

CHAPTER 3

RESEARCH METHODOLOGY

This study elicits descriptive information about distance education in the North Carolina Community College system, and it also compares the perceptions of chief academic officers and chief distance education officers regarding the need for and support of distance education programs in their respective institutions. The majority (95%) of community colleges used for this study identified the chief academic officer as the vice president of academic affairs. The vice president of academic affairs frequently would be the second in command, reporting directly to the president at that institution, whereas the chief distance education officer at most (75%) of the institutions involved in this study was titled as a dean or a department chair. The remaining institutions identified the chief distance education officer as a director or coordinator of an academic program. At institutions where the chief distance education officer was a dean, that person would answer directly to the vice president of academic affairs, who is referred to in this study as the chief academic officer. The director and coordinator would answer directly to the dean of that department.

Research Design

The study was conducted using a survey methodology. Questionnaires and interviews are used often in educational research collecting information that is not always directly observable (Gall, Borg & Gall, 1996). The design of the study made use of primarily quantitative methodologies. A survey questionnaire was used to attempt to collect data on perceptions about distance education from two different participants in each community college in North Carolina.

Components of descriptive and inferential methods were used in this study. Responses from chief academic officers and chief distance education officers have been employed. Generalizations about perceptions of chief academic officers compared to chief distance education officers were obtained by using inferential analyses.

A pilot study was conducted to determine the feasibility of the survey instrument. Subjects of the pilot study were chief academic officers and chief distance education officers from Western Piedmont Community College, McDowell Technical Community College, Mayland Community College, and Mitchell Community College. Each participant was asked to record the time that it took to fill out the survey and to provide comments and suggestions on the contents of the survey. That feedback was used to modify questions pertaining to each survey.

Population

All 58 institutions within the North Carolina Community College system were surveyed for this study. The chief academic officer and chief distance education officer at each institution were surveyed for this study.

Instrumentation

A survey was electronically mailed to the chief academic officer and the chief distance education officers at each community college. Those individuals were chosen as survey participants because they were considered to be the most knowledgeable persons in their respective institutions regarding the topic of this study.

The survey instrument for the chief academic officers contains 11 forced-choice questions and 3 open-ended questions. The survey for the chief distance education officers contains 6 forced-choice questions and 3 open-ended questions. A copy of each survey instrument is included in the appendices.

Data Analysis

To organize and summarize the numerical data, descriptive statistics were used. Each hypothesis is listed below, with appropriate information regarding the survey questions and data analysis techniques used. Qualitative methods were used to answer open-ended research questions. Chi-square analysis was conducted to test the null hypotheses.

Research Hypotheses

Ho 1. There is no difference between the perceptions of the chief academic officers and the chief distance education officers regarding distance education instructors' satisfaction with training they have received for distance education courses they teach.

Ho 2. There is no difference between the perceptions of the chief academic officers and the chief distance education officers regarding faculty satisfaction with institutional policies and practices concerning faculty workload.

Ho 3. There is no difference between the perceptions of the chief academic officers and the chief distance education officers regarding faculty satisfaction with the released time for course development.

Ho 4. There is no difference between the perceptions of the chief academic officers and the chief distance education officers regarding faculty satisfaction with the overall institutional support given to distance education programs.

Ho 5. There is no difference between the perceptions of the chief academic officers and the chief distance education officers regarding faculty satisfaction with released time for training in developing distance education.

Ho 6. There is no difference between the perceptions of the chief academic officers and the chief distance education officers regarding faculty satisfaction with institutional policies and practices concerning extra compensation for faculty members who teach distance education classes.

Pilot Test /Reliability Results

A pilot test of the research instrument was conducted in the early spring of 2001. Survey instruments for the chief academic officer and chief distance education officer were sent to each of four different colleges in North Carolina. The appropriate survey was sent to the chief academic officer or the chief distance education officer of each college. The feedback from these participants was used to modify the final survey instrument.

The reliability of the survey questionnaire was measured using Cronbach's Coefficient Alpha. This is a numerical coefficient of reliability that may range from zero to one. Hatcher and Steanski (1994), cited Nunnally (1978), who suggested that a "rule of thumb" of .70 be an acceptable level for the Cronbach's Coefficient Alpha test (p.513).

The results of this test proved to be an acceptable level based on the "rule-of-thumb" findings. The results of the Cronbach's Coefficient Alpha for the chief academic officer survey was .86 and for the chief distance education officer survey was .81.

Summary

Methods and procedures used for this study are presented in this chapter. The population for the study consisted of chief academic officers and chief distance education officers from all 58 community colleges in North Carolina. Analyses of the findings are presented in Chapter 4 and the summary, conclusions, recommendations to improve current distance education programs and recommendations for further research are presented in Chapter 5.

CHAPTER 4

DATA ANALYSIS

North Carolina community college administrators are realizing that distance education is gaining more popularity with students almost every day. In addition to the cost of technology required to support distance education programs, there are many faculty-related matters administrators should take into consideration.

This study sought to obtain specific factual data about the differences in perceptions between the chief academic officers and the chief distance education officers regarding faculty satisfaction with respect to workload, staff support, training, released time for training and course development and extra compensation. The number of total course sections offered by each college in the 2001 spring semester as well as the numbers of on-line and "hybrid" sections offered at each institution were obtained from the chief academic officers. The core of this study was constructed around the responses to survey questions corresponding to the following eight research questions:

1. To what extent are Internet/Web-based courses offered at each institution?;
2. To what extent are hybrid courses offered at each institution?;
3. To what extent is course development training offered at each institution for distance education faculty members?;
4. To what extent is released time granted at each institution for distance education instructors' training?;
5. To what extent are workload policies at each institution modified to accommodate distance education instructors?;

6. To what extent is released time granted at each institution for distance education course development?;
7. To what extent is extra compensation given at each institution to distance education instructors?; and
8. To what extent are distance education faculty members perceived by chief academic officers and chief distance education officers to be satisfied with institutional policies regarding faculty training, released time and extra compensation?

The chief academic officers (CAOs) answered survey questions corresponding to research questions 1, 2, 3, and 6. The chief academic officers (CAOs) and the chief distance education officers (CDOs) both answered survey questions corresponding to research questions 4, 5, 7, and 8. Research questions 1, 2 and 3 asked for the number of course sections that the institution offered during the 2001 spring semester. A "YES" or "NO" response was required to answer research question 6. The remaining questions compared perceptions and opinions between members of the two survey groups. Members of each group also were asked three open-ended questions.

Summary of Survey Data

The chief academic officer and the chief distance education officer of each of the 58 community colleges in North Carolina made up the population for this study. A letter explaining the purpose of the study along with an attachment containing the questionnaire was e-mailed to members of both groups at each community college. A response rate of

76% from the CAOs and a response rate of 83% from the CDOs were obtained from the initial e-mailing of the survey questionnaires. A second e-mailing of the survey questionnaire was determined to be unnecessary. The data collected from the questionnaires were analyzed and organized using the SAS Institute program procedures.

A total of 44 surveys were returned by the CAOs, for a return rate of 75.8%, and 48 surveys were returned by the CDOs, for a return rate of 82.7%.

Survey Question One

"How many course sections does your institution offer this semester for on-line Internet/Web-based instruction?" This question was only asked on the questionnaire for the CAO at each college. Table 1 shows the numbers and percentages of Internet/Web-based sections that were offered per college in several size categories during the spring 2001 semester. Results showed that from responding institutions, the majority (98%) of colleges offered between 1 and 40 course sections of Internet/Web-based during the spring 2001 semester. However, smaller colleges offering between 1 –199 course sections offered a larger percentage of their total course sections in distance education formats than did other larger colleges. Refer to Table 5 for a complete listing of these data.

Survey Question Two

"How many course sections does your institution offer this semester for synchronous (live broadcast) hybrid and/or Web-enhanced courses?" (Hybrid/Web-enhanced courses are courses that use some type of distance education technology to enhance a traditional classroom course.) This question was directed only to the CAO of each college. Table 2 shows the numbers and percentages of synchronous hybrid /Web-enhanced course sections that were offered per college in several size categories during the spring 2001 semester. Results showed that colleges offered between 1 and 20 synchronous Web-enhanced course sections during the spring 2001 semester. The high cost of technology could be one reason why institutions offered only a limited number of synchronous Web-enhanced sections. This possible reason for limited offering of this type of distance education courses is based on information gathered from my institution, Western Piedmont Community College.

Survey Question Three

"How many course sections does your institution offer this semester for asynchronous (delayed broadcast) hybrid /Web-enhanced courses?" (Hybrid/Web-enhanced courses are courses that use some type of distance education technology to enhance a traditional classroom course.) This question was sent to only the CAO of each college. Table 3 shows a percentage of asynchronous hybrid /Web-enhanced courses sections offered during spring 2001 semester. Results showed a slightly higher numbers of asynchronous Web-enhanced course sections than the numbers of synchronous Web-

enhanced course sections. Overall, 98% of institutions offered between 1 and 30 asynchronous Web-enhanced course sections during the spring 2001 semester.

Table 1

Internet/Web-based Course Sections per college as Percentages of Total Course Sections per college Spring 2001 Semester

Number of Colleges	Total number of sections per college	Internet/Web-based sections per college						Combined % per section per college
		1-10	11-20	21-30	31-40	41-50	50+	
	Est. Average	5	15	25	35	45	53	
n = 14	1-199 $\bar{x}$ = 100	n = 9 64.29%	n = 4 28.57%	n = 0 0%	n = 1 7.14%	n = 0 0%	n = 0 0%	140/ 1400 = 10.00%
n = 9	200-399 $\bar{x}$ = 300	n = 5 55.56%	n = 3 33.33%	n = 1 11.11%	n = 0 0%	n = 0 0%	n = 0 0%	95/ 2700 = 3.52%
n = 6	400-599 $\bar{x}$ = 500	n = 0 0%	n = 4 67.67%	n = 2 33.33%	n = 0 0%	n = 0 0%	n = 0 0%	110/ 3,000 3.67%
n = 11	600-799 $\bar{x}$ = 700	n = 2 18.18%	n = 4 36.36%	n = 2 18.18%	n = 2 18.18%	n = 1 9.09%	n = 0 0%	235/ 7,700 = 3.05%
n = 3	800-999 $\bar{x}$ = 900	n = 0 0%	n = 1 33.33%	n = 1 33.33%	n = 1 33.33%	n = 0 0%	n = 0 0%	75/ 2,700 = 2.78%
n = 1	1,000+ $\bar{x}$ = 1,375	n = 0 0%	n = 0 0%	n = 0 0%	n = 0 0%	n = 0 0%	n = 1 100%	53/ 1,375 = 3.85%
n = 44	Total Column Number %	n = 16 36.36%	N = 16 36.36%	n = 6 13.64%	n = 4 6.82%	n = 1 2.27%	n = 1 2.27%	708/ 18,875 = 3.75%

The percentage found in each cell was determined by dividing the Internet/Web-based course section per college by the total number of colleges for that particular row. The combined percentages per section per college were determined by multiplying the estimated average by the number of colleges in that particular cell.

Table 2

Synchronous Hybrid/Web-Enhanced Course Sections per college as Percentages of Total Course Sections per college
Spring 2001 Semester

Number of Colleges	Total number of sections per college	Synchronous hybrid/Web-enhanced sections						Combined % per section per college
		1-10	11-20	21-30	31-40	41-50	50+	
	Est. Average	5	15	25	35	45	5	
n = 14	1-199 $\bar{x}$= 100	n = 14 100%	n = 0 0%	n = 0 0%	n = 0 0%	n = 0 0%	n = 0 0%	70/ 1,400= 5.00%
n = 9	200-399 $\bar{x}$= 300	n = 8 88.89%	n = 1 11.11%	n = 0 0%	n = 0 0%	n = 0 0%	n = 0 0%	55/ 2,700= 2.04%
n = 6	400-599 $\bar{x}$= 500	n = 4 100%	n = 0 0%	n = 0 0%	n = 0 0%	n = 0 0%	n = 0 0%	5/ 3,000= .02%
n = 11	600-799 $\bar{x}$= 700	n = 8 72.73%	n = 3 27.27%	n = 0 0%	n = 0 0%	n = 0 0%	n = 0 0%	85/ 7,700= 1.10%
n = 3	800-999 $\bar{x}$= 900	n = 0 0%	n = 2 66.67%	n = 0 0%	n = 0 0%	n = 1 33.33%	n = 0 0%	75/ 2,700= 2.78%
n = 1	1,000+ $\bar{x}$= 1,375	n = 1 100%	n = 0 0%	n = 0 0%	n = 0 0%	n = 0 0%	n = 0 0%	5/ 1,375 .004%
n = 44	Total Column Number %	n = 35 79.55%	n = 8 18.18%	n = 0 0%	n = 0 0%	n = 1 2.27%	n = 0 0%	325/ 18,875 1.72%

The percentage found in each cell was determined by dividing the Synchronous hybrid/Web-enhanced section per college by the total number of colleges for that particular row. The combined percentages per section per college were determined by multiplying the estimated average by the number of colleges in that particular cell.

Table 3

Asynchronous Hybrid/Web-Enhanced Course Sections per college as Percentages of Total Course Sections per college
Spring 2001 Semester

Number of Colleges	Total number of sections per college	Asynchronous Hybrid/Web-enhanced sections						Combined % per section per college
		1-10	11-20	21-30	31-40	41-50	50+	
	Est. Average	5	15	25	35	45	5	
n = 14	1-199 $\bar{x}$= 100	n = 14 100%	n = 0 0%	n = 0 0%	n = 0 0%	n = 0 0%	n = 0 0%	70/ 1,400= 5.00%
n = 9	200-399 $\bar{x}$= 300	n = 7 77.78%	n = 2 22.22%	n = 0 0%	n = 0 0%	n = 0 0%	n = 0 0%	65/ 2,700= 2.41%
n = 6	400-599 $\bar{x}$ = 500	n = 0 0%	n = 0 0%	n = 6 100%	n = 0 0%	n = 0 0%	n = 0 0%	150/ 3,000= 5.00%
n = 11	600-799 $\bar{x}$= 700	n = 5 45.45%	n = 2 18.185	n = 3 27.27%	n = 1 9.10%	n = 0 0%	n = 0 0%	165/ 7,700= 2.14%
n = 3	800-999 $\bar{x}$= 900	n = 0 0%	n = 0 0%	n = 2 66.67%	n = 1 33.33%	n = 0 0%	n = 0 0%	85/ 2,700= 3.15%
n = 1	1,000+ $\bar{x}$= 1,375	n = 1 100%	n = 0 0%	n = 0 0%	n = 0 0%	n = 0 0%	n = 0 0%	5/ 1,375= .004%
n = 44	Total Column Number %	n = 27 61.36%	n = 4 9.09%	n = 11 25.00%	n = 2 4.55%	n = 0 0%	n = 0 0%	540/ 18,875= 2.86%

The percentage found in each cell was determined by dividing the Asynchronous hybrid/Web-enhanced section per college by the total number of colleges for that particular row. The combined percentages per section per college were determined by multiplying the estimated average by the number of colleges in that particular cell.

Table 4

Total Distance Education Course Sections per college
Spring 2001 Semester

Number of Colleges	Total number of sections per college	Total Distance Education Course Sections						Combined % per section per college
		1-10	11-20	21-30	31-40	41-50	50+	
	Est. Average	5	15	25	35	45	10	
n = 14	1-199 $\bar{x}$= 100	n = 185 66.07%	n = 60 21.43%	n = 0 0%	n = 35 12.5%	n = 0 0%	n = 0 0%	280/ 1,400= 20.00%
n = 9	200-399 $\bar{x}$= 300	n = 100 46.51%	n = 90 41.86%	n = 25 11.63%	n = 0 0%	n = 0 0%	n = 0 0%	215/ 2,700= 7.96%
n = 6	400-599 $\bar{x}$= 500	n = 20 7.14%	n = 60 21.43%	n = 200 71.43%	n = 0 0%	n = 0 0%	n = 0 0%	280/ 3,000= 9.33%
n =11	600-799 $\bar{x}$= 700	n = 75 15.46%	n = 135 27.84%	n = 125 25.77%	n = 105 21.65%	n = 45 9.28%	n = 0 0%	485/ 7,700= 6.30%
n = 3	800-999 $\bar{x}$= 900	n = 0 0%	n = 45 19.15%	n = 75 31.91%	n = 70 29.78%	n = 45 19.15%	n = 0 0%	235/ 2,700= 8.70%
n = 1	1000+ $\bar{x}$= 1,375	n = 10 100%	n = 0 0%	n = 0 0%	n = 0 0%	n = 0 0%	n = 0 0%	10/ 1,375= .01%
n = 44	Total Column Number %	n = 390 25.91%	n = 390 25.91%	n = 425 28.24%	n = 210 13.95%	n = 90 5.98%	n = 0 0%	1,505/ 18,875= 7.97%

The percentage found in each cell was determined by dividing the Total Distance Education Sections per college by the total number of sections for that particular row.

The combined percentages per section per college were determined by adding the number of sections per cell in that particular row and dividing by the sum of the estimated average for that particular row.

Table 5

Comparisons of Total Distance Education Sections Between Smallest and Larger Colleges
Spring 2001 Semester

Number of Colleges	Total number of sections per groups	Distance Education Course Sections						Combined % per groups of colleges
		1-10	11-20	21-30	31-40	41-50	50+	
	Est. Average	5	15	25	35	45	53	
n = 14	1-199	n = 185 66.07%	n = 60 21.43%	n = 0 0%	n = 35 12.50%	n = 0 0%	n = 0 0%	280/ 1,400= 20.00%
n = 30	200- 1,000+	n = 205 16.73%	n = 330 26.94%	n = 425 34.69%	n = 175 14.29%	n = 90 7.35%	n = 0 0%	1,225/ 17,475= 7.01%

The smallest colleges offering between 1 and 199 course sections offered a larger percentage of their total course sections in distance education formats than did colleges offering more than 200 total course sections. Perhaps this is an indication that smaller colleges are more aggressive to enhance their full-time equivalency enrollment numbers and corresponding state appropriations by offering a larger percentage of their total course sections through distance education methods. Because of the lack of funding for new buildings and new programs, smaller colleges seem to have realized the value of offering distance education classes.

Survey Question Four

"How many course sections for all courses combined does your institution offer this semester?" This question was directed only to the CAO of each college. Refer to Tables 1-4 for the summary results of all combined course sections offered during spring 2001 semester. Thirty-two percent of responding colleges offered between 1 and 199 combined course sections, while 66% offered between 200 and 999 combined course sections during the spring 2001 semester. Only 2% of responding colleges offered more than 1000 combined course sections during the spring 2001 semester.

Survey Question Five

"Does your institution provide released time for faculty members to receive course design training for distance education classes?" This question was directed only to the CAO of each college. Refer to Table 6 for percentage results of released time granted.

Table 6

CAOs Responses to Survey Question Five: "Does your institution provide released time for faculty members to receive course design training for distance education classes?"

Response	Options	Percentage
Yes	n = 26	59%
No	n = 18	41%
Totals	n = 44	100%

More than half of responding colleges (59%) provided released time for faculty members to receive course design training.

Survey Question Six

"How satisfied are your distance education faculty members with training concerning distance education courses they teach?" This question was directed to both the CAO and CDO of each college. The choice of answers for each group ranged from 1 "Very Satisfied" to 4 "Very Dissatisfied". Refer to Table 7 for the breakdown of the percentages.

Table 7

CAOs and CDOs Reponses to Survey Question Six: "How satisfied are your distance education faculty members with training concerning distance education courses they teach?"

Group	1 Very Satisfied	2 Somewhat Satisfied	3 Somewhat Dissatisfied	4 Very Dissatisfied	Totals
CAO n = 44	n = 18 41%	n = 26 59%	n = 0 0%	n = 0 0%	100%
CDO n = 48	n = 7 15%	n = 27 56%	n = 13 27%	n = 1 2%	100%

One-hundred percent of the CAOs chose "Very Satisfied" or "Somewhat Satisfied", whereas 71% of the CDOs make the same choices. However, 29% of the

CDOs perceived faculty members were either "Somewhat Dissatisfied" or "Very Dissatisfied" with training concerning distance education courses they teach.

Survey Question Seven

"In your opinion, how satisfied are distance education instructors with institutional policies and practices concerning their workload?" This question was directed to both the CAO and CDO of each college. Refer to Table 8 for the breakdown of the percentages.

Table 8

CAOs and CDOs Responses to Survey Question Seven: "In your opinion, how satisfied are distance education instructors with institutional policies and practices concerning their workload?"

Group	1 Very Satisfied	2 Somewhat Satisfied	3 Somewhat Dissatisfied	4 Very Dissatisfied	Totals
CAO n = 44	n = 5 11%	n = 30 68%	n = 9 21%	n = 0 0%	100%
CDO n = 48	n = 1 2%	n = 15 31%	n = 25 52%	n = 7 15%	100%

Seventy-nine percent of the CAOs chose "Very Satisfied" or "Somewhat Satisfied", whereas 67% of the CDOs chose "Very Dissatisfied" or "Somewhat Dissatisfied". There is a definite difference between the CAOs and CDOs regarding their

perceptions of faculty workload satisfaction. The belief that CDOs have more frequent contact with faculty members than do the CAOs could be one reason for the difference shown in perceived faculty satisfaction with their workloads.

Survey Question Eight

"In your opinion, how satisfied are distance education instructors with institutional policies and practices concerning released time for course development?" This question was directed to both the CAO and the CDO of each college. Refer to Table 9 for the breakdown of the percentages.

Table 9

CAOs and CDOs Responses to Survey Question Eight: "In your opinion, how satisfied are distance education instructors with institutional policies and practices concerning released time for course development?"

Group	1 Very Satisfied	2 Somewhat Satisfied	3 Somewhat Dissatisfied	4 Very Dissatisfied	Totals
CAO n = 44	n = 6 14%	n = 32 72%	n = 5 11%	n = 1 2%	100%
CDO n = 48	n = 1 2%	n = 18 38%	n = 27 56%	n = 2 4%	100%

Eighty-six percent of the CAOs chose "Very Satisfied" or "Somewhat Satisfied" for satisfaction of released time given for course development. Only 40% of the CDOs made the same choices.

Survey Question Nine

"In your opinion, how satisfied are distance education instructors with institutional policies and practices concerning overall support given to distance education programs?" This question was directed to both the CAO and CDO of each college. Refer to Table 10 for the breakdown of the percentages.

Table 10

CAOs and CDOs Responses to Survey Question Nine: "In your opinion, how satisfied are distance education instructors with institutional policies and practices concerning overall support given to distance education programs?"

Group	1 Very Satisfied	2 Somewhat Satisfied	3 Somewhat Dissatisfied	4 Very Dissatisfied	Totals
CAO n = 44	n = 9 21%	n = 30 68%	n = 5 11%	n = 0 0%	100%
CDO n = 48	n = 9 19%	n = 20 42%	n = 18 37%	n = 1 2%	100%

Eighty-nine percent of the CAOs chose "Very Satisfied" or "Somewhat Satisfied" with faculty satisfaction regarding overall support given to distance education programs. Only 61% of the CDOs made the same choices.

Survey Question Ten

"In your opinion, how satisfied are distance education instructors with institutional policies and practices concerning released time for training in developing distance education?" This question was directed to both the CAO and CDO of each college. Refer to Table 11 for the breakdown of the percentages.

Table 11

CAOs and CDOs Responses to Survey Question Ten: "In your opinion, how satisfied are distance education instructors with institutional policies and practices concerning released time for training in developing distance education?"

Group	1 Very Satisfied	2 Somewhat Satisfied	3 Somewhat Dissatisfied	4 Very Dissatisfied	Total
CAO n = 44	n = 6 14%	n = 32 73%	n = 6 13%	n = 0 0%	100%
CDO n = 48	n = 4 8%	n = 12 25%	n = 29 61%	n = 3 6%	100%

Eighty-seven percent of the CAOs perceived that faculty members were "Very Satisfied" or "Somewhat Satisfied" with released time given for training in developing distance education courses, whereas 67% of the CDOs perceived faculty members were either "Somewhat Dissatified" or "Very Dissatisfied" with training time for developing distance education.

Survey Question Eleven

"In your opinion, how satisfied are distance education instructors with institutional policies and practices concerning extra compensation for teaching distance education classes?" This question was directed to both the CAO and CDO of each college. Refer to Table 12 for the breakdown of the percentages.

Table 12

CAOs and CDOs Reponses to Survey Question Eleven: "In your opinion, how satisfied are distance education instructors with institutional policies and practices concerning extra compensation for teaching distance education classes?"

Group	1 Very Satisfied	2 Somewhat Satisfied	3 Somewhat Dissatisfied	4 Very Dissatisfied	Totals
CAO n = 44	n = 8 18%	n = 23 52%	n = 11 25%	n = 2 5%	100%
CDO n = 48	n = 3 6%	n = 7 15%	n = 20 42%	n = 18 37%	100%

Seventy percent of the CAOs chose "Very Satisfied" or "Somewhat Satisfied" regarding compensation given to distance education faculty, whereas only 21% of the CDOs made the same choices regarding compensation. This represents a definite difference in perceptions between the CAOs and the CDOs regarding this very important broad indicator of satisfaction by distance education faculty members.

Survey Question Twelve

"Please list any strengths that you have identified with the distance education program at your institution." This question was directed to both the CAO and CDO at each college. Listed below are the quoted responses that were received from the CAOs and CDOs.

CAO Responses

1. Tapes provided for the telecourses. Excellent trainers for on-line courses. A good distance learning coordinator who will work to ensure that the policies we have established will be followed.
2. Committed faculty and staff.
3. More course sections for students.
4. More options for students.
5. The faculty we currently have working in this area are very supportive of distance education. However, the older faculty in general do not participate as well.
6. Orientation given online, consistent content of courses overall (required elements), documentation for student and instructors.
7. Required orientation meeting for information.
8. Faculty involvement and support.
9. Faculty support and more options for students to get an education
10. Flexibility for students. Support from the faculty members.
11. Innovative faculty, strong technological environment, good technical support and strong distance education leadership from top and middle management.

12. Enrollment has increased and student evaluations have been positive. Some students have stated that they have learned from Internet classes than traditional classes.
13. We have highly motivated faculty members who are concerned about quality and retention.
14. Good in-house training for instructors.
15. We have established a distance learning/instructional support center. It is staffed by people who can provide technical and instructional design assistance. We also have multimedia capabilities.
16. Orientation is given online which is consistent with traditional classroom courses.
17. More course sections for students.
18. Good faculty support and more options for students.
19. A willingness by most faculty to go above and beyond to develop courses to better meet the needs of the students. A good evaluation process for distance education courses and faculty.
20. It allows students to take courses that their work schedule would not allow them to take.
21. Because we are a small institution, we can offer a course by Internet that we would otherwise would not be able to offer.

CDO Responses

1. College has a cadre of highly motivated instructors and technical support personnel

Who really want distance learning to work, and they find ingenious ways of working around problems to do so.

2. Mandatory training for all distance education instructors, mandatory orientation for instructors, mandatory orientation for all students who enroll in a distance education course, and good feedback from evaluations.
3. We have some really great teachers here who are doing their best.
4. Available course sections for students.
5. Good faculty trying to go above and beyond what is expected with limited administrative support and who understands the dynamics of online teaching and course development.
6. Faculty support.
7. More course sections for students.
8. Different methods for students to take classes.
9. Training, administrative support and technical support.
10. Ongoing technical support for faculty, attention given to the quality of instruction and easy to use course delivery software.
11. Our greatest strength in our distance education courses is the quality of material and instruction provided by our faculty. More students have expressed that they felt they had learned more in distance education classes than traditional classes Overall support we have for faculty and students in distance education.
12. A coordinator has been hired to help with developing classes. We also have an individual who is our blackboard facilitator.

13. We have just completed our distance education policy. The process involved faculty, staff, administrators, and technical personnel. I think this will help with some of our dissatisfactions we currently have.
14. The diversity of offerings as a receive site.
15. Most of our instructors puts a lot of time into their courses even though they are not compensated appropriately.
16. The school has recognized the extra time needed by instructors so they keep the enrollment low for online courses.

Conclusions

Both the CAOs and CDOs agreed that their faculty members were dedicated and committed to distance education programs. They also agreed institutions that offered distance education courses gave students more options for taking classes. There were some differences between the CAOs and CDOs responses regarding strengths of their institutions. One difference was that the CDOs recognized the importance of having written policies for distance education. According to the CDOs, a written policy would help eliminate problems that faculty, staff, and administrators were experiencing. One CDO stated that extra compensation should be considered for faculty members who teach distance education courses. Allowing lower maximum enrollments for on-line courses was listed by the CDOs as a strength for their institutions because of all the time it takes for instructors to prepare for these types of classes.

Survey Question Thirteen

"Please suggest any changes your institution should make in its policies and practices for distance education." This question was directed to both the CAO and CDO at each college. Listed below are the quoted responses received from the CAOs and CDOs.

CAO Responses

1. Institution needs a compensation plan.
2. Too new to comment on.
3. Need to keep up-to-date with needs for distance education programs.
4. Need a better plan for instructors who teach distance education classes.
5. We are currently looking at another way of paying for web-based classes because that is different than a traditional contact hour class.
6. Stricter guidelines for skills that are needed by the students. A different fee structure for distance education classes.
7. Need to develop specific policies for distance education and provide ongoing training.
8. Develop more in-depth plans for the future and form a committee to study distance education.
9. We need to move practice into policy in the areas of release time, compensation, etc.
10. With courses being delivered to high schools we need better commitment from the high schools not to interrupt the college classes.

11. We need to provide more support and training. We also need to plan for program expansion more systematically.
12. Good in-house training for instructors.
13. We need to revisit our workload policies to accommodate the growth of on-line learning.
14. Need to develop institutional policies regarding distance education.
15. A clearer recognition of the amount of time needed to develop and teach Internet classes.
16. Develop a written policy regarding distance education.

CDO Responses

1. Need a plan for compensation and release time for distance education faculty members.
2. More release time and/or supplemental pay to compensate instructors for the extra time needed in developing and refining courses.
3. Lower enrollment is needed for distance education classes, especially on-line classes.
4. Some faculty teaching distance education courses but do not want to teach these classes are doing a terrible job which is hurting the students.
5. Need more options for instructors such as reduced teaching loads, compensation, etc.
6. Administrators should audit a class to see what goes into one.
7. Need reduce workloads.
8. Administrators need a better understanding of how distance education works.

9. Need on-line support for students, more training for instructors, and develop policies for distance education.
10. Institution needs to develop policies for distance education.
11. Change workload policies.
12. Need policies for workloads, training, and compensation.
13. Need to provide release time for training, look at reductions in workloads and develop a compensation plan for instructors.

Conclusions

Two CAOs suggested that putting practice into written policy statements concerning distance education was needed by their institutions, whereas several CDOs suggested that policies for distance education were needed to address workload, training, compensation, and student needs. A CAO suggested that institutions should have better guidelines for students who enroll in distance education classes. Several CAOs stated that more time and plans were needed to define the needs of distance education. The biggest difference of opinion between the CAOs and CDOs was that the CDOs expressed a need for the administration to get a better understanding about how distance education works and the problems associated with distance education , whereas the CAOs did not indicate this as a problem.

Survey Question Fourteen

"Please list any suggestions for statewide policy changes for the community college system to improve distance education." This question was directed to both the CAO and CDO at each college. Listed below are the quoted responses received from the CAOs and CDOs.

CAO Responses

1. State needs to develop a plan for out-of-state distance education fees.
2. Distance education requires enhanced instructional support funding as well as instructor funding at a lower student to faculty ratio.
3. State payment of licensure fees for Blackboard rather than prorating fees back to the institutions.
4. Some uniformity related to release time, number of students in a course, compensation for development would be helpful.
5. I guess consistency and coordination on policy issues would be most helpful to us.
6. The Systems office policies and procedures are out-of-date. The "field" is moving faster than their response. For example, rates for out-of-state students still has not been finalized for the on-line offerings.
7. Provide more support and funding.
8. Too new to comment.

9. A statewide policy regarding faculty load as it relates to teaching distance education courses, also a policy regarding release time for course development for Internet courses.
10. State needs to realize the importance of distance education and provide more support and funding.
11. More support and funding.
12. More funding.
13. Develop a policy for out-of-state students and provide more funding.
14. Our state is behind the times when it comes to distance education. We need a strong leadership role in Raleigh to inform the General Assembly about the needs for training, support and funds for distance education.
15. More state-wide funding.
16. More long-range planning for the growth of distance education.
17. Distance education courses, when done properly, require more time than traditional courses. Teaching allotment positions should be based on fewer FTE for these classes.
18. Funding, funding, funding.
19. Service areas should not be an issue in distance education and in some cases they still are. Another major issue is the in-state versus out-of-state tuition – we (NC) cannot justify the customer loss that this creates.
20. We need clear guidelines that make it easy to offer and document classes that use various combinations of technologies and meeting formats. The future of distance learning for most of our technical programs will likely include combinations of theory

delivered by technology and practice acquired in laboratory settings. We need an FTE auditing framework that accommodates this easily and without confusion.

CDO Responses

1. Lower overall class sizes. More regional training for online instruction including Blackboard instructors and administrators.
2. Define policies and guidelines and examining the equivalency or lack of teaching an online course to a seated course.
3. More funding.
4. More training and awareness by staff and administrators on all aspects of online teaching.
5. More funding, training, and focus.
6. More funding and support.
7. More emphasis on distance education from the state level.
8. More funding.
9. Clarify teaching load problems.
10. The only suggestion that I have is to develop a statewide standard for the "intellectual property rights" document.
11. Don't get me started… NCCCS needs to pick a technology and support it for more than a couple of years. Need to have a regional/statewide programs through distance education that are planned in advance. In general, better centralized and proactive support is needed.

12. Suitable funding for connectivity on a continuing basis.
13. The state should take the lead in making recommendations or policy statements on training needs, workload, and release time. The state should take the lead in acknowledging the additional time needed to develop and teach these courses.
14. More funding.
15. More funding and support for statewide training for all parties involved with distance education.
16. More focus, training and funding.
17. We need a "clearing house" for distance learning information.
18. It's time to institute competitive prices for out-of-state tuition.
19. State-wide funding needed to continue the progress of distance education.
20. More funding across the state and more training options.

Conclusions

Both the CAOs and CDOs agreed that more state funding was needed for distance education. They also agreed that a state wide policy should be developed to address the out-of-state tuition concerns. The main difference between the CAOs and CDOs was the CAOs mentioned that a service area policy needed to be developed, whereas the CDOs did not mentioned this at all. Another difference between the two groups was that the CDOs suggested that policies for faculty training, compensation, and workloads were needed, whereas the CAOs did not mention these needs at all. The CDOs suggested the

state should develop a policy to govern the "intellectual property rights" of faculty members. The CAOs made no mention of this need.

Analysis of Data for Null Hypotheses

The CAOs and CDOs responses to the survey were reviewed analyzed to test the null hypotheses. The survey instrument was divided into three sections; a) different course sections offered, b) perceptions and opinions about faculty satisfaction on several issues, c) open-ended questions for gathering suggestions and identifying strengths at each institution.

An alpha level of .05 was used for the analysis of the data. Hypotheses 1 through 6 compared the perceptions between the CAOs and CDOs about faculty satisfaction regarding training, released time for training and course development, workload, and extra compensation as follows:

Ho1. There is no difference between the perceptions of the chief academic officers and the chief distance education officers regarding distance education instructors' satisfaction with training they have received for distance education courses they teach.

Ho2. There is no difference between the perceptions of the chief academic officers and the chief distance education officers regarding faculty satisfaction with institutional policies and practices concerning faculty workload.

Ho3. There is no difference between the perceptions of the chief academic officers and the chief distance education officers regarding faculty satisfaction

with the released time for course development.

Ho4. There is no difference between the perceptions of the chief academic officers and the chief distance education officers regarding faculty satisfaction with the overall institutional support given to distance education programs.

Ho5. There is no difference between the perceptions of the chief academic officers and the chief distance education officers regarding faculty satisfaction with released time for training in developing distance education.

Ho6. There is no difference between the perceptions of the chief academic officers and the chief distance education officers regarding faculty satisfaction with institutional policies and practices concerning extra compensation for faculty members who teach distance education classes.

Table 13

Statistical Analysis of Hypotheses

Hypotheses	Chi-Square	Degrees of Freedom	P-Value
1	15.137	1	0.001
2	19.844	1	0.001
3	20.803	1	0.001
4	9.481	1	0.002
5	24.931	1	0.001
6	26.094	1	0.001

The Chi-square values listed above in Table 13 were obtained after consolidating the four group choices. Because some of the different choices were not chosen, this generated an error message that Chi-square may not have been a valid test. Because there were similarities between the choices given, they were grouped into two groups. The "Very Satisfied" and "Somewhat Satisfied" responses were grouped together and the "Somewhat Dissatisfied" and "Very Dissatisfied" responses were grouped together. By using these new groups the error message was eliminated calculation of the Chi-square statistical test.

Based on the outcome of the Chi-square testing, all six hypotheses were rejected. Each hypothesis resulted in having a p-value $<.05$, and all the Chi-square values were relatively low, which indicated that the probability of achieving a value higher than the one achieved was very unlikely.

Chapter 4 presents a statistical analysis of the quantitative data collected from the chief academic officers survey and chief distance education officers survey. A summary, conclusions and recommendations for further study drawn from this analysis are presented in Chapter 5.

CHAPTER 5

SUMMARY

This study's primary purpose was to identify and compare the perceptions of chief academic officers and chief distance education officers in North Carolina community colleges regarding faculty satisfaction with institutional policies regarding released time for training and course development, workload, and compensation. The survey instruments were sent out to all 58 community colleges in North Carolina.

Research for this study was descriptive in nature and used data gathered from the survey questionnaires entitled "Chief Academic Officer" and "Chief Distance Education Officer" (see Appendixes). Both surveys were sent out by electronic mail, better known as "e-mail". From the initial mailing, a return rate of 74% from the chief academic officers (CAOs) and 82% return rate from the chief distance education officers (CDOs) was achieved. A second mailing of the survey questionnaires was deemed not necessary for either group.

The quantitative statistical method Chi-square was used to analyze data gathered from the surveys. An Alpha level of .05 was set for all data analyses. Data analysis was performed using the SAS System for Univariate and Multivariate statistics.

Results of the study revealed that there were significant differences in perceptions by the chief academic officers (CAOs) and chief distance education officers (CDOs), and all of the null hypotheses for this study were rejected. The findings regarding each hypothesis was that the perceptions of the CDOs were less positive about faculty

satisfaction than were the CAOs' perceptions. It seems likely that most faculty members have more frequent contact with their CDOs than with their CAOs, and that this could be a reason for rejection of the null hypotheses.

The chief academic officers at the majority of institutions (95%) are referred to as the academic vice presidents, who report directly to the presidents of their respective institution, whereas the CDOs at most institutions (75%) are referred to as deans of departments. The remaining institutions identified the CDOS as directors or coordinators of academic programs. Because distance education faculty members are thought to have more frequent contact with their CDOs than with their CAOs, the CDOs would be more likely to be exposed to faculty complaints and gripes than would the CAOs. Most faculty members probably would not want the CAOs to know that they were unhappy with their jobs, because of possible unfavorable annual evaluations or other negative reactions from the CAOs.

Conclusions

The conclusions drawn from the literature review and from the findings of the survey instruments, testing of the null hypotheses, and suggestions from the CAOs and CDOs from the open-ended questions make up this section of the study.

Results of Table 1, Internet/Web-based Course Sections as Percentages of Total Course Sections, Table 2, Synchronous Hybrid/Web-Enhanced Course Sections as Percentages of Total Course Sections, and Table 3, Asynchronous Hybrid/Web-Enhanced Course Sections as Percentages of Total Course Sections offered during Spring 2001

Semester showed a large differenced in distance education course offerings by smaller and larger institutions. The smallest colleges offering between 1 and 199 combined course sections were offering a larger percentage of total course sections through distance education formats than were all other larger colleges combined. Table 5, Comparisons of Total Distance Education Sections Between Smallest and Larger Colleges,showed that there was a trend in the number of distance education course sections being offered during the spring 2001 semester based on the size of the colleges. The smallest colleges with 1 and 199 combined course sections, were offering more than twice as many distance education course sections than were all of the other larger colleges combined. The smallest colleges were offering 20.00% of their total combined courses through the various distance education formats, whereas all other colleges combined were offering only 7.01% of their total course sections through distance education. This finding may indicate that smaller colleges have realized, because funding continues to be a state and regional problem, that possibly the best way to increase enrollment is through distance education.

This study showed that there were differences in perceptions and opinions between the CAOs and CDOs regarding faculty satisfaction as related to workload, staff support, training, released time for training and course development and extra compensation. A reason for this could be that faculty members have more frequent contact with their CDOs than they do with their CAOs, and that faculty members complain more to CDOs than they do to CAOs.

Recommendations

This study has provided insightful information about the perceptions of the CAOs and CDOs regarding faculty satisfaction on several key issues. Recommendations for further research include the following:

This study should be replicated in North Carolina community colleges in two to three years to ascertain what changes have occurred;

1. Similar comparative studies should be made regarding community colleges located in other states;
2. Additional similar studies should be conducted in North Carolina community colleges to gather comments and concerns directly from faculty members;
3. North Carolina medium-to-large colleges need to consider increasing the percentage of distance education classes they offer, as compared with the total number of course sections offered. This could be one way to increase their full-time equivalency (FTE) enrollments.

The following recommendations are made to improve distance education in North Carolina:

1. Local community college administrators need to become better informed about the needs of distance education faculty members and programs;
2. Adequate technology funding for distance education programs need to be aquired; needs of distance education faculty members and programs;
3. A state wide formula should be developed to enable the sharing of FTE enrollment for colleges that work together on sponsoring distance education courses;

4. Long-range plans for supporting and training faculty members and funding distance education programs should be developed;
5. A state wide task-force needs to be developed to study the needs of distance education faculty members and programs within the North Carolina Community College system.

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APPENDICES

APPENDIX A

Cover Letter for Survey

Date

Mr./Ms./Dr.
Title
School

Dear Mr/Ms/Dr:

I'm the Director of Industrial Training at Western Piedmont Community College. I'm currently working on my Ed. D. degree in Educational Leadership and Policy Analysis at East Tennessee State University. I will use the information from this survey to complete my doctoral dissertation dealing with distance education within the North Carolina Community College System. My research has indicated that faculty members have many concerns and issues with teaching distance education classes. I will be comparing perceptions and opinions about distance education faculty members' satisfaction with institutional policies and practices as perceived by chief academic officers and chief distance education officers.

At the bottom of this e-mail is a "hot-link" button. To activate this link just double click on the button. A questionnaire should appear asking for your perceptions, opinions, and suggestions for distance education for North Carolina. The attached questionnaire has been tested by a pilot group of your colleagues. According to the pilot study is should take less than 10 minutes to complete this questionnaire. After you complete the questionnaire just click on the submit button to send your responses.

Your responses will come back to me as a summary sheet with no identification as to which college it came from. Therefore, the submitted information will be completely anonymous.

Please complete and submit your responses by April 06, 2001.

I will be pleased to send you an executive summary of my study at your request.

Thank you for your help.

Sincerely,

James A. Benton

APPENDIX B

Chief Academic Officer Survey Instrument

North Carolina Community College
Distance Education Survey

Chief Academic Officer

Directions:

Please answer each question completely. For each question with a 4-point scale, please mark the appropriate answer with 1 meaning a "Very satisfied" to a 4 meaning a "Very dissatisfied" response.

1. How many course sections does your institution offer this semester for on-line Internet/Web-based instruction?

   1-10 ___ 11-20___ 21-30____ 31-40____ 41-50____ 50+____

2. How many course sections does your institution offer this semester for synchronous (live broadcast) hybrid and/or Web-enhanced courses? (Hybrid/Web-enhanced courses are courses that use some type of distance education technology to enhance a traditional classroom course.)

   1-10 ___ 11-20____ 21-30____ 31-40____ 41-50____ 50+___

3. How many course sections does your institution offer this semester for asynchronous (delayed broadcast) hybrid and/or Web-enhanced courses? (Hybrid/Web-enhanced courses are courses that use some type of distance education technology to enhance a traditional classroom course).

   1-10 ___ 11-20____ 21-30____ 31-40____ 41-50____ 50+___

4. How many course sections for all courses combined does your institution offer this semester?

   1-199____ 200-399___ 400-599____ 600-799____ 800-999____ 999+____

5. Does your institution provide released time for faculty members to receive course design training for distance education classes?

Yes ____ No ____

6. How satisfied are your distance education faculty members with training concerning distance education courses they teach?

   1. Very satisfied ___ 2. Somewhat satisfied ___

   3. Somewhat dissatisfied ___ 4. Very dissatisfied ___

7. In your opinion, how satisfied are distance education instructors with your institution's policies and practices concerning their workload?

   1. Very satisfied ___ 2. Somewhat satisfied __

   3. Somewhat dissatisfied ___ 4. Very dissatisfied ____

8. In your opinion, how satisfied are distance education instructors with institutional policies and practice concerning released time for course development?

   1. Very satisfied ___ 2. Somewhat satisfied ___

   3. Somewhat dissatisfied ___ 4. Very dissatisfied ___

9. In your opinion, how satisfied are distance education instructors with your institution's policies and practices concerning overall support given to distance education programs?

   1. Very satisfied ___ 2. Somewhat satisfied ___

   3. Somewhat dissatisfied ___ 4. Very dissatisfied ___

10. In your opinion, how satisfied are distance education instructors with policies and practices concerning released time for training in developing distance education?

    1. Very satisfied ___ 2. Somewhat Satisfied ___

    3. Somewhat dissatisfied ___ 4. Very dissatisfied ___

11. In your opinion how satisfied are distance education instructors with policies and practices concerning extra compensation for teaching distance education classes?

    1. Very satisfied ___ 2. Somewhat satisfied ___

3. Somewhat dissatisfied ___ 4. Very dissatisfied ___

12. Please list any strengths that you have identified with the distance education program at your institution.

13. Please suggest any changes your institution should make in its policies and practices for distance education.

1. Please list any suggestions for statewide policy changes for the community college system to improve distance education.

NOTE: If your institution has a written policy concerning workloads, released time for course development and training, or extra compensation for distance education faculty members, please fax me a copy of that policy. Fax number: 828-438-6015

Thank You!!

APPENDIX C

Chief Distance Education Officer Survey Instrument

North Carolina Community College
Distance Education Survey

Chief Distance Education Officer

Directions:

Please answer each question completely. For each question with a 4-point scale, please mark the appropriate answer with 1 meaning a "Very satisfied" to a 4 meaning a "Very dissatisfied" response.

1. How satisfied are your distance education faculty members with training concerning distance education courses they teach?

   1. Very satisfied ___ 2. Somewhat satisfied ___

   3. Somewhat dissatisfied ___ 4. Very dissatisfied ___

2. In your opinion, how satisfied are distance education instructors with your institution's policies and practices concerning their workload?

   1. Very satisfied ___ 2. Somewhat satisfied __

   3. Somewhat satisfied ___ 4. Very dissatisfied ____

3. In your opinion, how satisfied are distance education instructors with institutional policies and practice concerning released time for course development?

   1. Very satisfied ___ 2. Somewhat satisfied ___

   3. Somewhat dissatisfied ___ 4. Very dissatisfied ___

4. In your opinion, how satisfied are distance education instructors with your institution's policies and practices concerning overall support given to distance education programs?

.

   1. Very satisfied ___ 2. Somewhat satisfied ___

3. Somewhat dissatisfied ___ 4. Very dissatisfied ___

5. In your opinion, how satisfied are distance education instructors with policies and practices concerning released time for training in developing distance education?

1. Very satisfied ___ 2. Satisfied ___

3. Somewhat dissatisfied ___ 4. Very dissatisfied ___

6. In your opinion how satisfied are distance education instructors with policies and practices concerning extra compensation for teaching distance education classes?

1. Very satisfied ___ 2. Somewhat satisfied ___

3. Somewhat dissatisfied ___ 4. Very dissatisfied ___

7. Please list any strengths that you have identified with the distance education program at your institution.

8. Please suggest any changes your institution should make in its policies and practices for distance education.

9. Please list any suggestions for statewide policy changes for the community college system to improve distance education.

Thank You!!

VITA

James Alvin Benton

Personal Data:

Date of Birth: October 18, 1953
Place of Birth: Marion, North Carolina
Marital Status: Married with one son

Education:

Public Schools: Glen Alpine
Western Piedmont Community College, Morganton, North Carolina,
Degree: Industrial Engineering, A.A.S., 1981.

Western Carolina University, Cullowhee, North Carolina,
Degree: Manufacturing Engineering, B.S., 1986.

Appalachian State University, Boone, North Carolina,
Degree: Masters of Arts in Administration, 1995.

Appalachian State University, Boone, North Carolina,
Degree: Ed.S. in Higher Education, Administration, 1997.

East Tennessee State University, Johnson City, Tennessee,
Degree: Ed.D. in Educational Leadership, 2001

Professional Experience:

Coordinator of Industrial Training
Director of Industrial Training
Phi Theta Kappa Advisor

Honors/Awards:

Certificate of Achievement for Community College Leadership Institute
Honors Institute Seminar Leader for Phi Theta Kappa.
Strathmore's Who's Who
Delta Kappa Pi